Family Ophichthyidae

Tongue more or less firmly joined in mouth. Front nostril near snout tip, usually in small tube. Hind nostril in upper lip, opens downward. Gill openings not confluent. Eggs numerous, moderate, like those of ordinary fishes. Body scaleless. Vertical fins and sometimes pectorals absent. End of tail always projecting beyond dorsal and anal fins, without rudiment of caudal. Color frequently varied.

Numerous small or moderate sized eels, very abundant about coral reefs in tropical seas.

? Serranus argyrogrammicus Valenciennes, Hist. Nat. Pois., vol. 8, 1831, p. 183. Mauritius.

? Etelis argyrogrammicus Lacaze, Hist. Nat. Madagascar, Pois., 1891, p. 107, pl. 10, fig. 3, a + b (type).

Serranus telfairii Bennett, Proc. Comm. Zool. Soc. London, vol. 1, 1831, p. 127. Mauritius.

Serranus brighami Seale, Occas. Pap. Bishop Mus., vol. 1, no. 4, 1901, p. 7, fig. 3. Honolulu.

Lepidus brighami Jordan, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 452 (Honolulu). — Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 527 (Honolulu). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 233, pl. 16 (Honolulu, Kailua).

Rooseveltia brighami Jordan and Snyder, Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 21

According to Jordan and Evermann (Genera of Fishes, pt. 1, 1917, p. 65) Colubrina Lacépède, Hist. Nat. Poiss., vol. 5, 1803, p. 40, type Colubrina chinensis Lacépède, is based on an unidentified Chinese painting. Colubrinus Duméril, Zool. Analytique, 1806, p. (138) 304, atypic [type Colubrina chinensis Lacépède] is a variant spelling.

Analysis of genera

a.' Body with distinct fins, at least on back; pectorals present.

b.' Vomerine teeth present.

c.' Teeth blunt, mostly granular or molar.

d.' dorsal rather high, begins on head before gill opening; pectoral short. Hydrichthys.

d.² dorsal low, begins behind gill opening; pectoral small. Pisodonophis.

c.² Teeth all pointed, none molar; pectoral well developed.

e.' dorsal begins more or less behind gill opening.

f.' Snout moderate or short, less than ¼ of head, jaws not

produced into slender beak.

g.' Lips not fringed.

h.' Teeth on sides of upper jaw uniserial or biserial.

i.' Teeth subequal, without canines. Ophichthus.

i.[2] Teeth unequal, some long canines either on vomer or in one or both jaws. Mystriophis.

h.[2] Teeth on sides of upper jaw in several series forming broad bands; jaws long; lips without papillae. Xyrias.

g.[2] Lips fringed.

f.' Edge of upper lip with fringe of barbels; teeth equally small; tail longer than rest of body. Cirrhemuraena.

f.[2] Lips with conspicuous fringe of papillae; canines present in jaws and on vomer; tail shorter than rest of body.

Brachysomophis.

f.[2] Snout very long, attenuate, clavate at tip, length over 1/4 of head; jaws slender and elongate.

Dysomus.

e.[2] Dorsal begins on nape or anterior part of head; pectoral small or absent.

h.[1] Pectoral small; body subterete, long; dorsal moderate.

Blascanichthys.

h.[2] No pectoral; body compressed;

e.[3] Vertical fins low, feeble, dorsal beginning behind anal; no pectorals; gill openings connected by transverse furrow across throat; hind nostril slit below eye posteriorly above edge of upper lip.

Hemerorhinus.

a.[3] Vertical fins low, feeble, dorsal beginning behind anal; no pectorals; gill openings connected by transverse furrow across throat; hind nostril slit below eye posteriorly above edge of upper lip. Hemerorhinus.

f.[2] Lips with conspicuous fringe of papillae; canines present in jaws and on vomer; tail shorter than rest of body.
Brachysomophis.

f.[2] Snout very long, attenuate, clavate at tip, length over 1/4 of head; jaws slender and elongate.
Oxystomus.

e.[2] Dorsal begins on nape or anterior part of head; pectoral small or absent.

h.[1] Pectoral small; body subterete, long; dorsal moderate. Blascanichthys.

h.[2] No pectoral; body compressed, dorsal high. Callechelys.

b.[2] No vomerine teeth; teeth pointed. Stathopterus.

a.[2] Body finless or sometimes only rudimentary dorsal and anal, no pectorals; gill openings close together.
Caecula.

→

Genus Myrichthys Girard

Myrichthys Girard, Proc. Acad. Nat. Sci. Philadelphia, 1859, p. 58. Type Muraena tigrinus Girard, monotypic.

Chlevastes Jordan and Snyder, Proc. U.S. Nat. Mus., vol. 23, 1901, p. 867. Type Muraena colubrina Boddaert, monotypic.

Body well elongated. Head small, conic. Snout short, pointed, convex, much projecting beyond mouth. Eye small. Mouth small, cleft reaches hind eye edge or beyond. Teeth obtusely conic or granular, biserial in jaws, on vomer and premaxillaries. Tongue not free. Front nostrils in

tubes on flattened lower surface of snout. Nostrils wide, in upper lip, directed downward, anteriorly with flap. Gill openings rather small, oblique, lateral slits, separated by interspace of moderate extent. Dorsal and anal end at short space before end of tail. Dorsal begins on nape, far before gill openings. Pectoral short, broad rudiment. Vent premedian.

Tropical seas.

2136

Analysis of species

a'. Myrichthys. dorsal and anal ending short space from end of tail; white with 3 rows of alternating round brown spots. maculosus.

a². Chlevastes. Anal ending before end of dorsal, which situated far from end of tail; pale brown or whitish with 26 to 30 black rings, extending on fins. colubrinus.

Myrichthys maculosus (Cuvier)

Muraena maculosa Cuvier, Règne Animal, vol. 2, 1817, p. 232 (on Lacépède).

Ophisurus maculosus Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 102 (Madagascar). — Bleeker, Nederl. Tijdsch. Dierk., vol. 1, 1863, p. 345 (Madagascar).

Pisoodonophis maculosus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 21 (part).

Ophichthys maculosus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 81 (Madagascar; Banda). — Klunzinger, Verh. Zool. Bot. Ges. Wien, vol. 21, 1871, p. 611 (Red Sea). — Schmeltz, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Tahiti). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. , 1910, p. 401 (Ponapé, Tongatabu, Tahiti, Hawaii).

Ophichthys (Pisodontophis) maculosus Martens, Preuss. Exped. Ost Asien, vol. 1, 1876, p. 406 (Buru).

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Myrichthys (Myrichthys) maculosus Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 284, fig. 129 (German New Guinea).

Myrichthys maculosus Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 160, pl. 10, fig. 2 (Surigao, Iba, Cabalian). — Fowler, Bull. Bishop Mus., no. 22, 1925, p. 5 (Guam). — Fowler and Ball, Bull. Bishop Mus., no. 26, 1925, p. 6 (Johnston Island). — Fowler, Bull. Bishop Mus., no. 38, 1927, p. 5 (Washington and Howland Islands); Mem. Bishop Mus., vol. 10, 1928, p. 43 (Fiji, type of Ophichthys stypurus, Honolulu, Guam, Johnston Island, types Pisoodonophis magnifica, Hawaii, Apiang); vol. 11, no. 5, 1931, p. 316 (reference).

Aphisurus ophis (part) Lacépède, Hist. Nat. Poiss., vol. 2, 1800, pp. 195, 196, pl. 6, fig. 2. "European Seas". — Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 65, pl. (16)160, fig. 3 (Buru; Banda); Réch. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

Aphithorax ophis Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 212 (Europe).

Muraena tigrina Rüppell, Atlas Reise Nördl. Afrika, Fische, 1828, p. 118, pl. 30, fig. 2. Corals at Mohila.

Dalophis tigrina Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 213 (Red Sea).

Pisoodonophis magnifica Abbott, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 476. Hawaiian Islands.

Myrichthys magnificus Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1900, p. 494, pl. 18, fig. 3 (type). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 84 (compiled). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 16 (type; note).

Ophichthys stypurus R. Smith and Swain, Proc. U. S. Nat. Mus., vol. , 1882, p. 120. Johnston Island.

Myrichthys stypurus Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 84, fig. 19 (type).

Ophichthys colubrinus (not Pallas) Veale, Occas. Pap. Bishop Mus., vol. 1, No. 3, 1900 (1901), p. 62 (large Guam specimen).

Myrichthys aki Tanaka, Fig. descr. Fishes of Japan, vol. 26, July 31, 1917, p. 458, pl. 118, figs. 358–360. Aki, Tosa Province, Japan.

depth 2 9/5 to 45; head 14 1/4 to 14 3/5, 5 7/8 to 6 3/5 to vent, width 3 to 3 2/3 its length; combined head and trunk 1 1/3 to 1 1/2 in tail. Snout 4 1/2 to 4 4/5 in head; eye 8 to 9, 2 to 2 1/2 in snout; mouth cleft extends 1/2 to 3/4 eye diameter behind eye, length 3 to 3 1/4 in head; teeth rather granular, rounded, biserial in jaws and on vomer, 5 or 6 on premaxillary; interorbital 5 1/2 to 6 in head, convex. Gill opening 14/5 to 2 in snout, low, 1 2/3 in interspace.

1 3/5 to 1 3/4 in interorbital

2142

Lateral line complete, distinct.
Dorsal origin midway between
gill opening and snout tip; anal
little lower; pectoral 6 to 8 in
head.

Whitish, backs tinged with
warm brown. About 50 rather large deep brown
on back, alternating irregularly.
On head first of upper spots on
snout, then all largely biserial.
~~snout above; 1 spots on body arranged~~
~~in 3 series~~. Below or on sides another
series, besides still another series
mostly on tail inferiorly, some of

more or less approximating along anal base. Dorsal with paler though otherwise similar blotches to those backs. Anal largely whitish, sometimes dark brown blotches on tail inferiorly reflected basally. Pectoral pale or whitish. Spots on side of head and below, latter mostly small and pale. Mandible with several small brownish spots. Iris gray.

Red Sea, Madagascar, East Indies, Philippines, Japan, Micronesia, Polynesia, Hawaii.

2144

1013 ~~and~~ 1014 A.N.S.P. Hawaiian Islands. Dr. J. K. Townsend. Length 407 and 681 mms. Type (larger) and paratype of Pisoödanophis magnifica. Paratype with fewer dark spots though similarly distributed.

8996. Gubat Bay, Luzon. June 23, 1909. Length 423 mm.

Myrichthys colubrinus (Pallas)

Muraena colubrina (Boddaert) Pallas, Neue Nord. Beytr., vol. 2, 1781, p. 56, pl. 2, fig. 3. Amboina. — Gmelin, Syst. Nat. Linnaeus, pt. 1, 1789, p. 1133 (Amboina). — Walbaum, Artedi Pisc., vol. 3, 1792, p. 153 (on Pallas).

Muraena colubrinus Bonnaterre, Tabl. Ichth., 1788, p. 34 (copied).

Gymnothorax colubrinus Luckow, Naturges., vol. 4, 1799, p. 181 (copied). — Schneider, Syst. Ichth. Bloch, 1801, p. 529 (copied).

Muraenophis colubrina Lacépède, Hist. Nat. Poiss., vol. 5, 1803, pp. 627, 641, pl. 19, fig. 1. (New Britain; Amboina).

Ophithorax colubrina Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1844, p. 212 ("New England").

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Ophisurus colubrinus Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 100 (Malay Archipelago, Moluccas, Polynesia, India). — Bleeker, Verh. Batavia Genootsch. (Hal. Ichth. Jap.), vol. 25, 1853, p. 20 (reference); (Hal. Ichth. Bengal), vol. 25, 1853, p. 78 (reference).

Leiuranus colubrinus Kner, Reise Novara, Fische, 1865, p. 378 (locality ?). — Schmeltz, Mus. Godeffroy Cat., No. 3, 1866, p. 12 (Samoa).

Leiuranus colubrina Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 26 (Uvea).

Aphichthys colubrinus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 81 (Borneo, East Indies, Fiji). — Klunzinger, Verh. Zool. Bot. Ges. Wien, vol. 21, 1871, p. 610 (Red Sea). — Peters, Monatsb. Akad. Wiss. Berlin, 1876 (1877), p. 446 (Mauritius), p. 849 (Amboina). — Day, Fishes of India, pt. 4, 1878, p. 665, pl. 167, fig. 4. — Schmeltz Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Viti Islands). — Day, Fauna British India, Fishes, vol. 1, 1889, p. 96. — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 591 (Cebu). — Reuvens, Notes Leyden Mus., vol. 16, 1895, p. 153 (Larantoeka, East Flores; Macassar; Timor; Ternate; Nossi Be, Madagascar; Wahaay, Ceram; East Indies). — Bartlett, Strawak Gazette, vol. 26, No. 368, 1896, p. 180 (reference). — Boulenger, Ann. Mag. Nat. Hist., ser. 6, vol. 20, 1897, p. 374 (Rotuma).

Aphichthys (Pisodontophis) colubrinus Martens, Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 406 (Amboina River; Buru; Adenare, Flores).

Ophichthys colubrinus Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Viti Islands). — Ogilby, Records Australian Mus., vol. 1, 1890-91, p. 7 (Howla Island, Shortland). — Waite, Mem. Austral. Mus., No. 3, 1897, p. 195, pl. 8, fig. 3 (Funafuti, Ellice Islands). —

Pellegrin, Bull. Mus. Hist. Nat. Paris, vol. 4, 1898, p. 228 (Saypan, Mariannes).

— Steindachner, Denks. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 70, 1901, p. 514 (Samoa). — (Regan) Bedot, Rev. Suisse Zool., vol. 17, 1909, p. 169 (Amboina). —

Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 40 (Society and Kingsmill Islands).

2149

Chlevastes colubrinus Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 867 (Yaeyama, southern Riu Kiu). — Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 161, pl. 4 (Dumaguete, Puerto Galera, Iba)..

Chlevastes colubrina Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 195 (Samoa). — Fowler and Silvester, Marine Biolog. Pap. Carnegie Inst., 1922, p. 112 (Pago Pago).

Ingrichthys (Chlevastes) colubrinus Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 285, figs. 130-131 (Miak, Yaow, Insa Laut, Misser, Humboldt Bay and West New Guinea).

2150

Ingrichthys colubrinus Fowler, Bull. Bishop Mus., No. 22, 1925, p. 5 (Guam). — Fowler and Ball, Bull. Bishop Mus., No. 26, 1925, p. 5 (Johnston Island). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1927, p. 259 (type of Chlevastes elaps); Mem. Bishop Mus., vol. 10, 1928, p. 42, fig. 10 (Palmyra, Johnston, Guam, Samoa, Polynesia, Fiji, Strong Island, Kusaie, Pelew, Apiang, Ebon, Ascension Island, Society Islands, type of Chlevastes elaps); vol. 11, No. 5, 1931, p. 316 (Papua, Mortlock; type of Ophichthys naja).

Muraena annulata Ahl, Mur. Oph. [2151]
Thunberg, 1789, p. 8, pl. 1, fig. 1. East Indies.

Gymnothorax annulatus Schneider, Syst. Ichth. Bloch, 1801, p. 529.

Muraena fasciata Ahl, Mur. Oph. Thunberg, 1789, p. 9.

Gymnothorax fasciatus Schneider, Syst. Ichth. Bloch, 1801, p. 528.

Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 100 (Malay Archipelago; Indian Ocean).

Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 211 (compiled). — Bleeker, — Bleeker, Atlas Ichth. Ind. Néerl, vol. 4, 1864, p. 64, pl. (21) 165, fig. 1 (Sumatra, Cocos, Banda, Amboina, Bouro, Ternate, Batjan, Celebes, Ceram, Timor). — Kner, Reise Novara, Fische, 1865, p. 379 (Tahiti; Auckland). — Schmeltz, Cat. Mus. Godeffroy, no. 1, 1866, p. 11 (Samoa).

Psoodonophis fasciatus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 23 (copied).

Muraena annulata Ahl, Mur. Oph.
Thunberg, 1789, p. 8, pl. 1, fig. 1. East Indies.

Gymnothorax annulatus Schneider, Syst.
Ichth. Bloch, 1801, p. 529.

Muraena fasciata Ahl, Mur. Oph. Thunberg,
1789, p. 9.

Gymnothorax fasciatus Schneider, Syst. Ichth.
Bloch, 1801, p. 528.

Ophisurus fasciatus Lacépède, Hist. Nat.
Poiss., vol. 4, 1800, p. 686 ( ). —
Mc Clelland, Calcutta Journ. Nat. Hist.,
vol. 5, 1845, p. 211 (compiled). ✓ — Bleeker,
Rech. Faune Madagascar, pt. 4, 1874, p. 72
(reference).

Pisodonophis fasciatus Kaup, Archiv
Naturg., 1856, pt. 1, p. 49 (reference).

Pisoodonophis fasciatus Kaup, Cat. Apodal
Fish Brit. Mus., 1856, p. 23 (copied).

Ophisurus alternans Quoy and Gaimard,
Voy. Uranie, Zool., 1824, p. 243, pl. 45, fig. 2.
Guam. — Pöhl, Cat. Mus. Godeffroy, No.
9, 1884, p. 40 (Viti).

Ophisurus alternans Schmeltz, Cat. Mus.
Godeffroy, No. 1, 1864, p. 10 (South Sea; error).

Ophisurus fasciatus var. latifasciata
Bleeker, Atlas Ichth. Ind. Néerl., vol.
4, 1864, p. 64. East Indies.

Ophisurus fasciatus var. oculata Bleeker,
Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 64.
East Indies.

Ophisurus fasciatus var. semicincta Bleeker,
Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 64.
East Indies.
Ophichthys naja de Vis, Proc. Linn. Soc. New
South Wales, vol. 8, 1883 (1884), p. 455. South
Sea Islands.
Chlevastes elaps Fowler, Proc. Acad. Nat.
Sci. Philadelphia, 1912, p. 13, fig. 3.
Philippines.

depth 38 3/4 to 55 3/4; head 16 4/5
7 1/5 to 8 1/3 to vent,
to 18 3/4, width 3 3/4 to 4 2/5 its length;
combined head and trunk 1 1/5 to 1 1/4 in
tail. Snout 5 to 5 1/8 in head; eye
10 to 12, 1 7/8 to 2 1/4 in snout, 1 7/8 to 2
in interorbital; mouth cleft extends
3/4 to 1 1/2 eye diameters behind eye,
length 2 4/5 to 3 1/4 in head; teeth
small, short, rounded, biserial
in jaws, on premaxillary and vomer;
interorbital 6 1/3 to 6 3/4, convex.
Gill opening 9 3/4 to 10, in lower
half of body depth, 1/2 interspace.

Lateral line distinct, complete.

Dorsal begins little before middle in head length, fin height 3 1/4 to 5 in head; anal little lower than dorsal; pectoral 11 1/2 to 12.

Gray or brownish white, with 30 to 33 blackish rings, mostly complete on head and trunk and all extending on vertical fins. Paler or without interspaces with 1 to 6 dark variable rounded blotches.

Red Sea, Zanzibar, Madagascar, Mauritius, India, Andamans, East Indies, Philippines, Riu Kiu, New Zealand, Melanesia, Micronesia, Polynesia.

21657. Cebu market. August 28, 1909. Length 544 mm.

1 example. Papahag Island. February 23, 1908. Length 385 mm.

23023. Nabtan Island. November 8, 1908. Length 447 mm.

Genus Pisodonophis Kaup

Pisodonophis Kaup, Archiv Naturg., vol. 22, pt. 1, 1856, p. 47. Type Ophisurus cancrivorus Richardson, ...

Pisoodonophis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 17. Type Ophisurus cancrivorus Richardson, designated by Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 36.

Pisodontophis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 55. Type Ophisurus cancrivorus Richardson,

Amochelys Fowler, Proc. Acad. Nat. Sci. Philadelphia, Jan. 4, 1918, p. 3. Type Pisoodonophis cruentifer Goode and Bean, orthotypic.

Haletor (not Ichitcherine 1899) Jordan, Proc. Acad. Nat. Sci. Philadelphia, 1918 (1919), p. 343. Type Pisoodonophis cruentifer Goode and Bean, orthotypic.

Teeth blunt, mostly granular or molar. Vomer with teeth. Front nostril in short tube, usually near snout tip. dorsal low, begins behind gill opening. Anal well developed. Pectoral present, small.

Small or large eels, usually plainly colored living in tropical seas, sometimes in deep water.

They differ chiefly in their short or obtuse teeth.

Analysis of species

a.' dorsal origin above middle of pectorals.

b.' Head and trunk equal tail. hoeveni.

b.² Head and trunk 1½ in tail. cancrivorus.

a.² dorsal origin over last third of pectoral; head and trunk nearly 2 in tail; head 7⅓ to 8 to vent. microcephalus.

a.² dorsal origin behind end of pectorals.

c.' dorsal and anal very low; head and trunk 1¼ or less in tail.

d'. Head 4⅕ to 4⅗ to vent. boro.
d.² Head 5 to vent. microphterus.

c.² dorsal and anal very elevated, height of latter equals body height; head and trunk nearly twice in tail.
hypselopterus.

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Pisodonophis hoevenii (Bleeker)

Ophisurus hoevenii Bleeker, Natuurk. Tijds. Nederl. Indie, vol. 5, 1853, p. (154) 172. Macassar, Celebes.

Pisodonophis hoeveni Kaup, Archiv Naturg., 1856, pt. 1, p. 48 (reference).

Pisoodonophis hoeveni Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 20 (Macassar).

— Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 59, pl. (16) 160, fig. 2 (Celebes). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 299, fig. 142 (dentition) (type).

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Aphichthys hoevenii Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 79 (type).

Pisodonophis cancrivorus (Richardson)

Aphisurus cancrivorus Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 97, pl. 50, figs. 6-9. Port Essington, Northern Territory.

Pisodonophis cancrivorus Kaup, Archiv Naturges., 1856, pt. 1, p. 47 (India; Mauritius).

— Fowler, Copeia, No. 58, June 18, 1918, p. 62 (Philippines). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 169 (Manila Bay, Dumaguete, Mindanao).

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Pisoodonophis cancrivorus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 15, pl. 2, fig. 9 (head and dentition) (copied - Guichenot, Note I le Réunion, vol. 2, 1862, p. 30. Richardson; Mauritius). — Kner, Reise Novara, Fische, 1865, p. 379 (Java; Madras). — Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 238 (Manila, Cuyo).

— Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 300 (Macassar). — Fowler, Proc. Acad.

Pisoodonophis cancrivorus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 15, pl. 2, fig. 9 (head and dentition) (copied - Guichenot, Note Ile Réunion, vol. 2, 1862, p. 30. Richardson; Mauritius). — Kner, Reise Novara, Fische, 1865, p. 379 (Java; Madras). — Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference). — Franz, Abhandl. Kön. Bayer. Akad. Wiss., math. physik. Kl., vol. 4, Suppl. Band 1, 1910, p. 13 (Yokohama). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 300 (Macassar). — Fowler, Proc. Acad.

Nat. Sci. Philadelphia, 1918, p. 2 (Philippines); Copeia, No. 58, June 18, 1918, p. 62 (Philippines); Proc. Acad. Nat. Sci. Philadelphia, 1927, p. 260 (Philippine example); Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Pisodonophis (Ophisurus) cancrivorus Guichenot, Mém. Soc. Sci. Cherbourg, ser. 2, vol. 2, 1866, p. 147 (Madagascar).

Ophichthys cancrivorus (Günther, Cat. Fishes. Brit. Mus., vol. 8, 1870, p. 78 (types of Ophisurus baccidens, Ophisurus brachysoma, Ophisurus schaapi, Pisoodonophis moluccensis, ? Conger flavipinnatus Philippines). — Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Viti Levu); No. 7, 1879, p. 50 (Viti Levu). — Sauvage, Bull. Soc. Philomath. Paris, ser. 7, vol. 5, 1881, p. 107 (Swatow). — Boulenger, Proc. Zool. Soc. London, 1889, p. 242 (Muscat). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 590 (Luzon, Manila

Bay). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 400 (Apia, Samoa). — Jugmayer, Abhandl. Kön. Bayer. Akad. Wiss., Math.-phys. Klasse, vol. 26, band 6, 1913, p. 9 (Aman).

Ophichthys (Prisodontophis) cancrivorus Martens, Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 406 (Singapore).

? Conger flavipinnatus Bennett, Proc. Comm. Zool. Soc. London, 1831, p. 168. Mauritius?

Ophisurus sinensis Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 98. Canton.

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Ophiurus baccidens Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p. 1302, pl. 5, fig. 1 (teeth). Pinang, Malay Peninsula, Singapore.

Ophisurus schaapi Bleeker, Naturk. Tijds. Ned. Indië, vol. 3, 1852, p. (717) 735. Pankalpinang, Banka.

Pisodonophis schaapi Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Pisoodonophis schaapi Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 61, pl. (17) 161, fig. 1 (Banka, Amboina, Solor).

Pisoodonophis schaapii Schmeltz, Cat. Mus. Godeffroy, no. 4, 1869, p. 26 (Namusi).

Ophisurus brachijsoma Bleeker, Naturk. Tijdsr. Nederl Indië, vol. 3, 1852, p. (740) 776. Macassar.

Pisodonophis brachysoma Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference). Pisoodonophis brachysoma Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 19 (compiled). — Bleeker, Atlas Ichth. Ind. Neerl, vol. 4, 1864, p. 60, pl. (18) 162, fig. 2 (type).

Pisoodonophis moluccensis Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1865, pp. 48, 214. Amboina; Atlas Ichth. Ind. Neerl, vol. 4, 1864, p. 72, pl. (42) (not 45) 193, fig. 2 (Amboina).

? *Pisoodonophis zophistius* Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 868, fig. 15. Tokyo Bay near Misaki. — Ishikawa and Matsumura, Cat. Zool. Spec. Tokyo Mus. Vertebr., 1920, p. 172 (Kanagawa).

Pisoodonophis macgregori Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 238, fig. 2. Manila, Philippines.

Depth 30 to 34; head 8 7/8 to 11/5, 3 3/5 to 4 1/2 to vent, width 2 4/5 to 3 1/2 in its length; combined head and trunk 1 1/2 to 1 3/5 in tail. Snout 6 1/2 to 6 4/5 in head; eye 9 to 11, 1 1/4 to 1 1/2 in snout, 1 to 1 2/5 in interorbital; mouth cleft extends 1/2 to 3/5 of eye diameter behind eye, length 3 to 3 7/8 in head; teeth short, granular, in bands of 2 or 3 (4 to 8 with age) rather irregular series, in jaws and on vomer, also patch on premaxillary; interorbital 7 2/5 to 7 1/2, convex. Gill

opening 7, equals interspace.

Lateral line distinct, complete.

Dorsal origin over first 2/5 to 1/2 in pectoral, fin heigh 3 1/2 to 6 1/4 in head; anal fin height 4 3/4 to 5 4/5; pectoral 2 1/2 to 3.

Tawny olive generally, nearly cinnamon buff on lower surfaces of trunk. Muzzle and lower surface of head tinged sometimes with dusky brown or sooty, especially former. Iris gray. Vertical fins brown, anal and dorsal edges all blackish

Ophichthus algoensis Barnard.

Ophichthys triserialis (not Kaup)
Barnard, Ann. South African Mus.,
vol. 13, pt. 8, 1923, p. 444.

Ophichthys algoensis Barnard, Ann.
Mag. Nat. Hist., ser. 9, vol. 15, 1925, p. 498.
Algoa Bay, 55-fathoms ; Ann. South
African Mus., vol. 21, pt. 1, 1925, p. 203
(Algoa Bay, 55 fathoms (type)).

brown to blackish. Pectoral brownish above, paler below.

Arabia, Mauritius, Madagascar, India, Singapore, East Indies, Philippines, China, Japan, North Australia, Polynesia.

6315. Cavite market. June 27, 1908.
Length 633 mm.

8146. Cebu market. August 29, 1909.
Length 268 mm.

A447. Manila market. March 17, 1908.
Length 732 mm.

A.N.S.P.

4 examples. Philippines.
Commercial Museum of Philadelphia.
Length 338 to 440 mm.

2173

Pisodonophis microcephalus (Day)
Ophichthys microcephalus Day,
Fishes of India, pt. 4, 1878, p. 665,
pl. 170, fig. 7. Malabar; Fauna
British India, vol. 1, 1889, p. 96.

Pisodonophis boro (Buchanan-Hamilton)

Aphisurus boro Buchanan-Hamilton, Fishes of Ganges, 1822, pp. 20, 363. Ganges estuaries near Calcutta. — Gray, Illustrat. Ind. Zool. Hardwicke, 1830-33 (1832), pl. 95, fig. 1. — Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 98 (Indian Ocean). — Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p. 1304, pl. 5, fig. 2 (Pinang). — Bleeker, Verhandel. Batavia. Genootsch. (Nat. Geh. Bengal), vol. 25, 1853, p. (78) 156 (Calcutta).

— Richardson, Ichth. China Japan, 1846, p. 313 (note).

Prisodonophis boro Kaup, Archiv Naturges.,
1856, pt. 1, p. 48 (compiled). — Bleeker,
Verslag. Kon. Akad. Wet. Amsterdam,
ser. 2, vol. 2, 1868, p. 281 (Doreh, New
Guinea). — Jordan and Davis, Rep.
U. S. Fish Comm., pt. 16, 1888 (1892), p. 620
(Swatow, China). — Weber and Beaufort,
Fishes Indo Austral. Archipelago, vol. 3,
1916, p. 297, fig. 138 (Doreh). — Fowler,
Copeia, no. 58, June 18, 1918, p. 62
(Philippines). — Herre, Philippine
Journ. Sci., vol. 23, no. 2, Aug. 1923,
p. 168, fig. 3 (teeth) (Alaminos, Manila
Bay, San Fernando, Vigan).

Pisoodonophis boro Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 17 (Deccan). — Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 62, pl. (20) 164, fig. 3 (Java, Pinang, Singapore, Amboina, Calcutta). — Day, Fishes of Malabar, 1865, p. 248. — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1918, p. 3 (Philippines); 1927, p. 259 (Urani and Philippines); Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Ophichthys boro Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 77 (Hooghly River, Bengal, Pinang, East Indies, type of Ophichthys potamophilus, Cebu, Formosa, "Grenada, W. I." (error). — Day, Fishes of India, pt. 4, 1878, p. 664, pl. 171, fig. 2; Fauna British India, Fishes, vol. 1, 1889, p. 94, fig. 41. — Sauvage, Bull. Soc. Philomath. Paris, ser. 7, vol. 5, 1881, p. 107 (Swatow). — Bartlett, Sarawak Gazette, vol. 26, no. 368, 1896, p. 180 (Sarawak River near Kuching). — Weber, Siboga

2177

Exped., vol. 57, Fische, 1913, f. 51 (Macassar).

Ophichthus hyala (Buchanan-Hamilton)
Ophisurus hyala Buchanan-Hamilton,
Fishes of Ganges, 1822, fp. 20, 363, pl. 5,
fig. 5. Ganges River. — Cuvier, Règne
Animal, ed. 2, vol. 2, 1829, p. 351
— Bleeker, Verh. Batavia Genoots. (Nat.
Ichth. Bengal), vol. 25, 1853, p. (78)
158 (Calcutta).

Ophisurus hijala Richardson, Voy. Erebus
and Terror, Ichth., 1844-48, p. 102
(India). — McClelland, Calcutta
Journ. Nat. Hist., vol. 5, 1845, p. 211
(Bengal).

Ophisurus harancha Buchanan-Hamilton, Fishes of Ganges, 1822, pp. 21, 363. Estuaries near Calcutta. — Gray, Illustrat. Ind. Zool. Hardwicke, vol. 1, 1830-33 (1832), pl. 95, fig. 2. —

Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 241 (Bengal).

— Richardson, Ichth. China Japan, 1846, p. 313.

Ophichthus pallens (Richardson)

Ophisurus pallens Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 101. China.

Pisodonophis pallens Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Pisoodonophis pallens Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 17 (compiled).

Ophichthys pallens Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 61 (type). —

Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 588 (Luzon, Cavite, Santa Cruz).

Ophisurus karancha (not Buchanan-Hamilton) Richardson, Ichth. China Japan, 1846, p. 313.

Aphisurus hijala Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p. 1307 (compiled).

Aphichthys hijala Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 60 (no locality).

— Beavan, Fresh Water Fishes of India, 1877, p. 159 (Bengal rivers).

Aphisurus puncticulata Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 334 (on Buchanan-Hamilton).

Aphisurus rostratus McClelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp. 184, 211. Bengal.

~~Explor., vol. 57, Fische, 1913, p. 51 (Macassar).~~

Ophisurus puncticulata Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 134 (on Buchanan - Hamilton fig. 5).

Ophisurus immaculata Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 134 (on Gray pl. 91 fig. 1).

Ophisurus acuminata Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 134 (on Gray pl. 91, fig. 2).

Conger microstoma Eydoux and Souleyet, Voy. Bonite, Zool., vol. 1, 1841, p. 205, pl. 9, fig. 3. Macao.

Ophisurus rostratus (not Quoy and Gaimard) Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp. 184, 211 (Bengal).

Ophisurus vermiformis Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 212, pl. 12, fig. 2. Bengal.

Ophisurus minimus Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp. 185, 212, pl. 12, fig. 3. Bengal.

Ophisurus caudatus Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp. 185, 212, pl. 10, fig. 3. Bengal.

Ophisurus potamophilus Bleeker, Natuurk. Tijdschr. Nederl. Indië, vol. 5, 1853, p. (428) 458. Sambas, Borneo.

Ophisurus bengalensis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 17 (name in synonymy).

Pisoodonophis potamophilus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 20 (Sambas). — Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 63, pl. (28) 172, fig. 2 (Sambas).

Psiodonophis potamophilus Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Depth 32 to 34; head 8 7/8 to 10 3/4, 3 3/5 to 4 to vent, width 2 1/3 to 3 1/5 its length; combined head and trunk 1 1/2 to 1 3/5 in tail. Snout 6 2/3 to 7 in head; eye 1 2/3 to 1 9, 1 1/4 to 2 3/4 in snout, 2 to 2 1/2 in interorbital; mouth cleft extends 2 eye diameters behind eye, length 3 1/5 to 3 7/8 in head; teeth granular, tubercular, in bands of 2 or 3 series in jaws, on vomer in 2 or 3 series in young to 4 or 5 series with age,

still larger on premaxillary with age; interorbital 7 to 9 2/5, slightly convex. Gill opening 7 1/4, 1 1/2 to 1 3/4 in interspace.

Lateral line distinct.

Dorsal origin over middle of pectoral to pectoral length behind end of depressed pectoral, fin height 5 to 6 in head; anal subequally high as dorsal; pectoral 4 to 4 1/4.

Uniform brown or bister, belly and lower surface soiled whitish. Jaws often soiled brownish or

dusky brown, likewise lips. Iris gray. Fins gray, dorsal usually brown or dark brown marginally.

India, Singapore, East Indies, Philippines, China, Formosa.

2167

1 example A.N.S.P. Philippines.

Commercial Museum of Philadelphia.

Length 738 mm.

9360. Cebu market. August 24, 1909.

Length 1257 mm.

2188

Pisodonophis micropterus Bleeker

Pisoodonophis micropterus Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1863, p. 182. Macassar; vol. 2, 1864, p. 129 ; Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 59 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 298 (type).

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Pisodonophis hypselopterus (Bleeker)
Ophisurus hypselopterus Bleeker,
Natuurk. Tijdschr. Nederl. Indië, vol. 2,
1851, p. (58, 63) 69. Bandjermassing,
Borneo.

Pisodonophis hypselopterus Kaup,
Archiv Naturges., 1856, pt. 1, p. 48 (reference).
Pisoodonophis hypselopterus Kaup, Cat.
Apodal Fish Brit. Mus., 1856, p. 19
(Borneo). — Bleeker, Atlas Ichth. Ind.
Néerl., vol. 4, 1864, p. 63, pl. (17) 161, fig.
2 (type). — Weber and Beaufort, Fishes
Indo Austral. Archipelago, vol. 3, 1916,

p. 296, figs. 138-139 (Bandjermassing). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Ophichthys hypselopterus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 79 (type). — Bartlett, Sarawak Gazette, vol. 26, No. 368, 1896, p. 180 (reference). — Günther, Journ. Mus. Godeffroy, vol. 9, ft. 17, 1910, p. 400 (Ponapé).

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Genus Ophichthus Ahl

Ophichthus Ahl, Spec. Ichth. Muraen. Ophich., June 1789, pp. 1, 9. Type Muraena ophis Linnaeus, designated by Bleeker, Nederl. Tijds. Dierk., vol. 2, 1865, p. 119.

Ophichthys (not Ophichthys Swainson 1839) Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1865, p. 119.

*Ophisurus Lacépède, Hist. Nat. Poiss., vol. 2, 1800, p. 195. Type Muraena ophis Linnaeus, designated by Bleeker, Nederl. Tijds. Dierk., vol. 2, 1865, p. 119.

Cogrus Rafinesque, Caratt. Nouv. Paint. Animal.

Sicil., 1810, p. 62. Type Cogrus maculatus Rafinesque, monotypic.

Centrurophis Kaup, Archiv Naturges., 1856, pt. 1, p. 42. Type Ophisurus spadiceus Richardson, designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 271.

Poecilocephalus Kaup, Archiv Naturges., 1856, pt. 1, p. 43. Type Poecilocephalus bonaparti Kaup, monotypic.

Microdonophis Kaup, Archiv Naturges., 1856, pt. 1, p. 43. Type Microdonophis altipennis Kaup, monotypic.

Coecilophis Kaup, Archiv Naturges., 1856, pt. 1, p. 44. Type Coecilophis compar Kaup, monotypic.

Herpetoichthys Kaup, Archiv Naturges., 1856, pt. 1, p. 44. Type Herpetoichthys ornatissimus Kaup, designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 271.

Elapsopis Kaup, Archiv Naturges., 1856, pt. 1, p. 45. Type Elapsophis versicolor Kaup, monotypic.

Inuraenopsis (Le Sueur) Kaup, Archiv Naturges., 1856, pt. 1, p. 46. Type Ophisurus ocellatus (Le Sueur) Richardson, designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 271.

Scytalophis Kaup, Archiv Naturges., 1856, pt. 1, p. 46. Type Scytalophis magnioculis Kaup, designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 271.

Leptorhinophis Kaup, Archiv Naturges., 1856, p. 46. Type Ophisurus gomesi Castelnau, designated by Jordan, Genera of Fishes, pt. 2, 1919, p. 271.

Cryptopterus (not Kryptopterus Bleeker 1858) Kaup, Abhandl. Naturw. Ver. Hamburg, vol. 4, pt. 2, 1859 (1860), p. 11. Type Cryptopterus juncticeps Kaup, monotypic.

Uranichthys Poey, Repert. Fis. Nat. Cuba, vol. 2, 1867, p. 256. Type Muraena havannensis Schneider, designated by Jordan, Genera of Fishes, Pt. 3, 1919, p. 347.

Oxyodontichthys Poey, An. Soc. Espan. Hist. Nat. Madrid, vol. 9, 1880, p. 250. Type Ophichthys macrurus Poey.

Luxuriemus Jordan and Davis, Rep. U.S. Fish Comm., pt. 16, 1888 (1892), p. 622. Type Ophichthus evionthas Jordan and Bollman, orthotypic.

Jenkinsiella Jordan and Evermann, Bull. U.S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 83. Type Microdonophis macgregori Jenkins, orthotypic.

Cryptopterenchelys Fowler, Amer. Mus. Novit., no. 162, March 31, 1925, p. 1. Type Cryptopterus puncticeps Kaup, orthotypic.
Cryptopterenchelys Fowler, proposed to replace Cryptopterus Kaup.

Body well elongated, cylindrical. Head moderate, pointed. Snout pointed, generally projects beyond mouth. Eye small, at first third or fourth of head. Mouth cleft reaches below hind eye edge or beyond. Edge of upper lip without fringe of small barbels. Teeth acute, conic, subequal, without canines, in 1 or more series in jaws and on vomer. Premaxillary teeth in group or in pairs separated from other teeth. Front nostrils in short tube on

snout edge. Mid nostrils slit on
inner side of upper lip, below
front border of eye or in advance.
Gill openings moderate or small,
before and somewhat below pectoral
bases. Lateral line present. Dorsal
and anal not confluent, end at
short space from point of tail.
Dorsal origin above gill openings
or slightly behind pectoral end.
Pectoral well developed. Ventt
premedian or postmedian.

Numerous species in tropical seas.
The following doubtful:

Ophichthus

~~Pisodonophis~~ quinquiatus Günther

Ophichthys quinquiatus Günther,

Cat. Fishes Brit. Mus., vol. 8, 1870,

p. 83. No locality.

Head 5 to vent; head and body 1 1/4 in tail. Snout depressed, pointed; eye moderate, 1/2 in snout; mouth cleft moderate, nearly 1/4 in head, reaches little beyond eye; teeth granular, on premaxillary, vomer and hind part of maxillary and front of mandible triserial, rest biserial. ~~dorsal begins~~

dorsal begins on nape. Pectoral very short.

Head with rather numerous round brown spots. Four alternate series of round brown spots along body, uppermost on back, partly extending on dorsal. Dorsal with series of ill defined spots along margin. Anal with series of spots similar to those on body. Length 6 3/4 mm.

(Günther.)

Analysis of species

a.' Maxillary teeth uniserial.

b.' Dorsal origin behind pectoral base.

c.' Head and trunk somewhat shorter or longer (less than 1 1/2) than tail.

d.' Dark brown rings 18 to 23, extend on vertical fin bases; pectoral 7; jaws nearly equal. bonaparti.

d.² Shape with broad black cross band, broadly edged white in front and behind; pectoral over 2 to 4. cephalozona.

d.³ Body with 30 obscure dark blotches on back, first large over pharynx; pectoral 3 3/5 to 4. Paracephalozona.

d.⁴³ Body with 20 irregular dark cross bands; pectoral 4 1/4 to 4 1/2. evermanni.

d.⁵⁴ Body with 24 to 26 regular dark brown blotches; pectoral 9. miyamotonis. lithinus.

d.⁵ Body marbled brown; pectoral 4 1/6.

d.⁵ Color uniform; pectoral over 3.

e.' Mouth cleft 3 to 4 in head.

f.¹ depth 42. bernsteini.

f.² depth 27 1/5. grandoculis.

e.² mouth cleft 2 1/2 to 3 in head.

g.¹ dorsal inserted behind gill opening space equal to 1/2 of head. urolophus.

g.² dorsal inserted behind gill opening space less 1/5 of head. tasakiensis.

c.² Head and trunk 1 1/2 to 1 3/5 in tail.

g.¹ Vomerine teeth triserial anteriorly; head nearly 5 to vent. singaporensis.

g.² Vomerine teeth biserial; head 3 1/2 to vent. apicalis.

g.³ Vomerine teeth ?; head 5 1/5 to vent; above brown with yellow blotches or bands; anal edge black; pectoral black. intermedius.

2200

c.[3] Head and trunk over 2 in tail; vomerine teeth irregularly ~~biserial~~; head 5 ~~to~~ vent. macrochir.

b.[2] dorsal origin above gill opening.

h.[1] Head and trunk longer than tail; pectoral 5 1/2. polyophthalmus.

h.[2] Head and trunk shorter than tail.

i.[1] Pectoral 2 1/2; without dark blotches;

—.[1] (Teeth uniserial in jaws and on vomer; premaxillary plate with 5 stouter teeth arranged in 1. melanochir.

i.[2] Teeth uniserial in jaws and on vomer, only anteriorly in mandibles irregularly triseriate and stouter (as also 6 serially arranged

pairs on premaxillary plate. altipinnis.

f.[2] Pectoral 4; teeth uniserial; head with crowded small dark spots; body with large dark spots. crabro.

b.[3] Dorsal origin well before gill opening.

g. brown; dorsal and anal bordered black; pectoral black. altipennis.

g.[2] Head with small round blackish spots. pinguis.

a.[2] Maxillary teeth biserial, inner row of which may be incomplete.

f.[1] Mandibular teeth biserial.

k.[1] Head and trunk 2 in tail.

l.[1] Vomerine teeth triserial, on middle of bone sometimes quadriserial; head nearly 5 to vent.

fr.¹ with 24 black cross bands.
mcclellandi.

fr.² Uniform brown, fins pale.
stenopterus.

l.² Vomerine teeth biserial.

m.¹ Head 6 4/5 to vent. rutidoderma.

m.² Head 5 to 5 1/2 to vent.

a.¹ Depth 4 6; maxillary teeth biserial, except foremost. rhytidodermatoides.

fr.² Depth 6 8; maxillary teeth only biserial in middle of bone.
lumbricoides.

k.² Head and trunk 1 1/2 in tail.

m.¹ Head 3 to vent; pectoral 2 1/2.
dicelluras.

m.² Head 3 1/2 to vent; pectoral 4 1/2.
unicolor.

m.³ Head 7 to vent; pectoral 5.
marginatus.

k.[3] Head and trunk 1 1/3 in tail; head 3 1/3 to 3 3/4 to vent. celebicus.

k.[4] Head and trunk 1 1/4 in tail; head 4 to vent. elapsoides.

j".[2] Mandibular teeth uniserial.

o.[1] Dorsal origin over middle of pectoral; body with 27 brown rings. versicolor.

f.[2] Dorsal origin over end of pectoral, which 3 in head; olive brown, vertical fins edged whitish. tauchidai.

o.[2] Dorsal origin behind pectoral tip.

f.[1] Body with 23 brown rings. episcopus.

f.[2] Body with 16 or 17 large black spots on lateral line separated by band of variable spots; 1 transverse and 2 longitudinal rows of white spots on occiput; dorsal with black marginal spots and stripes. ornatissimus.

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a. 3 Teeth triserial in both jaws and on vomer; pectoral 4; head 3½.

algoensis.

2205

Ophichthus bonaparti (Kaup)

Poecilocephalus bonaparti Kaup, Archiv
Naturges., vol. 22, pt. 1, 1856, p. 43.
(Amboina through Quoy and Gaimard
(Paris Museum); Cat. Apodal Fish
Brit. Mus., 1856, p. 5, pl. 1, fig. ½ (not 3)
(head) (types).

Ophisurus bonapartei Bleeker, Act. Soc.
Sci. Ind. Néerl., no. 7, vol. 2, 1857, p. 87.

Ophichthys bonapartei Bleeker, Atlas Ichth.
Ind. Néerl., vol. 4, 1864, p. 47, pl. (14)
158, fig. 2 (Amboina).

Ophichthys bonaparti Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 69 (no locality). — Schmeltz, Cat. Mus. Godeffroy, no. 7, 1879, p. 59 (Raiatea). — Pöhl, Cat. Mus. Godeffroy, no. 9, 1884, p. 40 (Raiatea).

Ophichthys bonaparti Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 303 (Amboin).

Ophichthus bonaparti Fowler, Mem. Bishop Mus., vol. 11, no. 5, 1931, p. 316 (reference).

Ophisurus chrysospilos Bleeker,
Act. Soc. Sci. Ind. Néerl., To. 7, vol.
2, 1857, p. (8, 27)88. Amboina.

Poecilocephalus marksworti Kaup,
Abhandlt. Naturw. Ver. Hamburg,
vol. 4, pt. 2, 1859(1860), p. 10, pl. 1,
fig. 1.

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Ophichthus paracephalozonus new species

Depth 29 2/5 to 31 1/3; head 10 1/4 to 11, 5 to 5 1/6 to vent, width 3 1/3 to 3 3/5 in its length; combined head and trunk 1 1/8 in tail or 1/8 longer than tail. Snout 4 3/5 to 5 1/8 in head; eye 9 1/3 to 11 1/4, 2 to 2 1/4 in snout, 1 1/3 to 1 4/5 in interorbital; mouth

cleft extends 2/5 to 1/2 an eye diameter behind eye, length 2 4/5 to 3 1/8 in head; teeth slender, pointed, conic, uniserial in jaws and on vomer, oval group on premaxillaries; interorbital 6 4/5 to 7, convex. Gill opening 7 1/2 to 8, equals interspace.

Lateral line distinct, complete.

Dorsal origin over first 2/5 to last fifth of pectoral, fin height 5 in head; anal little lower; pectoral 3 3/5 to 4.

Brown, little paler on under

cleft 2 4/5 to 3 1/8.

surfaces. About 30. obscure dark blotches on backs, variable and irregular, extending on dorsal or variously broken as smaller variable spots or blotches but

not extending on uniform under

First upper dark blotch covers entire upper part of pharynx.

surfaces., dorsal, other than noted,

together with anal and caudal

well contrasted usually with dasker body.

pale brownish,, Iris pale gray.

Diagnosis. Differs from all the known species in the genus by its coloration. The back and dorsal fin marked with large, ill defined dark blotches, very variable and little contrasted. In these respects it differs at once from Ophichthus

bonaparti in which the dark blotches are complete rings and extend at least on the bases of the vertical fins, besides its throat has brown spots and the pectoral is much smaller.

Type No. U.S.N.M.

10529, 10531, 10532. Cebu market. August 17, 1909. Length 335 to 490 mm.

10955 to 10957. Cebu market. August 25, 1909. Length 348 to 517 mm. Type No. 10955.

8145. Cebu market. August 29, 1909. Length 440 mm.

21778. Iponcan River, Camp Overton, Mindanao. August 6, 1909. Length 383 mm.

22983. Santa Ana, Marinduque. April 24, 1908. Length 356 mm. to end of broken tail.

(Para; near; cephalozona, the specific name of a related species with which the present agrees in the large dark saddle like blotch on pharynx above.)

Ophichthus cephalozona (Bleeker)

Ophichthys cephalozona Bleeker, Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 49, pl. (12) 156, fig. 2. Singapore; Amboyna. — Kner, Reise Novara, Fische, 1865, p. 377 (Hong Kong). — Schmeltz, Cat. Mus. Godeffroy, no. 4, 1869, p. 26 (Ovalau). — Steindachner, Sitz. Ber. Akad. Wiss. Wien, math.-naturw. Klasse, vol. 60, pt. 1, 1870, p. 571 (Singapore). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 69 (type; East Indies, Cape York, Japan, Cebu). — Bleeker, Nederl. Tijds. Dierk., vol. 4, 1874, p. 123 (Hong Kong). — Schmeltz, Cat. Mus. Godeffroy, no. 7, 1879, p. 59 (South Sea). — Károli,

Termesz. Füzetek, Budapest, vol. 1, 1881, p. 185 (Singapore). — Pöhl, Cat. Mus. Godeffroy, No. 9, 1884, p. 9 (South Sea). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 589 (Luzon, Manila, Cebu). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 398 (Pelew Islands, Ovalau, Tongatabu). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 303, figs. 143-144 (Kei Islands; West New Guinea). — Chen, Bull. Biol. Dep. Sun Yat-sen Univ., vol. 1, No. 1, 1929, p. 22 (Weber's record).

Ophichthus cephalozona Herre,
Jordan and Snyder, Proc. U.S. Nat. Mus.,
vol. 23, 1901, p. 872 (compressed). —

1928, p. 45 (Pelew Islands; Oceania);

vol. 11, no. 5, 1931, p. 316 (reference); Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 60, fig. 7 (Micronesia, Polynesia).

Centurophis spadiceus (not Richardson) Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 2, pl. 1, fig. 1 (not description) (Canton, Madagascar, Vanikoro).

Inuraenopsis marginatus (not Peters) Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1868, p. 179. Moluccas, Archipelago.

Ophisurus marginatus (Valenciennes) Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1868, p. 179 (name in text).

Aphichthus cephalozona Herre,
Philippine Journ. Sci., vol. 23, no. 2,
Aug. 1923, p. 172, fig. 4 (teeth) (Cavite).
— Fowler, Mem. Bishop Mus., vol. 10,
1928, p. 45 (Pelew Islands; Oceania);
vol. 11, no. 5, 1931, p. 316 (reference); Hong
Kong Naturalist, vol. 3, no. 1, March 1932, p. 60, fig. 7 (micronesia Polynesia)
Centrurophis spadiceus (not Richardson
Kaup, Cat. Apodal Fish Brit. Mus., 1856,
p. 2, pl. 1, fig. 1 (not description) (Canton,
Madagascar, Vanikoro).

Ichthyophis marginatus (not Peters
Bleeker, Nederl. Tijdschr. Dierk., vol. 1,
1868, p. 179. Moluccas, Archipelago.

Aphisurus marginatus (Valenciennes
Bleeker, Nederl. Tijdschr. Dierk., vol. 1,
1868, p. 179 (name in text).

Depth 29 2/5 to 34 1/4; head 10 4/5 to 11, 4 3/5 to 5 to vent, width 3 1/2 to 4 1/5 its length; combined head and trunk 1 1/11 to 1 1/5 in tail. Snout 5 3/5 to 5 4/5 in head; eye 11 to 12 1/3, 1 7/8 to 2 1/8 in snout, 1 3/4 to 2 in interorbital; mouth cleft extends 1/2 eye diameter behind eye, length 3 2/5 to 3 1/2 in head; teeth conic, slender, uniserial in jaws and on vomer, angular series of little larger ones on premaxillary; interorbital 6 to 7 2/5, convex. Gill

opening 6 3/4 to 9, 1 to 1 2/5 in interspace.

Lateral line distinct, complete.

Dorsal origin over first 1/3 to 1/2 of pectoral, fin height 4 1/2 to 5 1/5 in head; anal lower; pectoral 2 4/5 to 3.

Brown, under surface of head and belly paler. Large blackish brown saddle over pharynx. Vertical fins dusky to blackish, each with narrow contrasted white margin. Pectoral brown.

Madagascar, Singapore, East Indies, Philippines, China, Formosa, Japan, Queensland, Micronesia, Polynesia.

8144. Cebu market. August 29, 1909. Length 510 mm.

9387. Cebu market. September 4, 1909. Length 665 mm.

Ophichthus evermanni Jordan and Richardson

Ophichthus evermanni Jordan and Richardson, Mem. Carnegie Mus., vol. 4, 1911, p. 172, pl. 67. Formosa. — Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 61 (compiled).

Ophichthys evermanni Chen, Bull. Biol. Dep. Sun Yat-sen Univ., vol. 1, no. 1, 1929, p. 21, pl. 1, fig. 3 (anterior body and tail end), fig. 3a (dentition) (Hsiamen and Pakhoi).

2220

Ophichthus miyamotonis Tanaka

Ophichthus miyamotonis Tanaka, Fig. descr. Fishes of Japan, vol. 11, May 6, 1913, p. 195, pl. 52, figs. 199–201.

Oshima, south of Kagoshima, Japan.

Caecula kirkii (Günther

Ophichthys kirkii Günther, Cat. Fishes

Brit. Mus., vol. 8, 1870, p. 89. Rovuma

Bay, East Africa.

2221

Ophichthus bernsteini (Bleeker)

Muraenopsis bernsteini Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1863, p. (154) 157. Galela, Halmaheira.

Ophichthys bernsteini Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 48, pl. (24) 158, fig. 1 (type). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 71 (compiled). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 304 (compiled).

Ophichthus grandoculis (Cantor)

Ophisurus grandoculis Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1840, p. 1306, pl. 5, fig. 3 (teeth). Pinang.

Centurophis grandoculis Kaup, Archiv Naturges., 1856, pt. 1, p. 42 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 4 (copied).

Ophichthys grandoculis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 71 (types).

Ophichthus grandoculis Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 238 (Manila). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 173, fig. 5 (teeth) (Jordan on Guimaras).

2223

Ophichthus urolophus (Schlegel)

Conger urolophus Schlegel, Fauna Japonica, Poiss., fts. 10-14, 1846, p. 260, pl. 114, fig. 11. Japan.

Ophisurus urolophus Bleeker, Verh. Batavia. Genootsch. Nat. Ichth. Japan), vol. 25, 1853, p. 19 (reference).

Ophichthys urolophus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 73 (compiled). — Ishikawa and Matsuura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 6. — Izuka and Matsuura, Cat. Zool. Spec. Tokyo, Vertebr., 1920, p. 172 (Kawajiri).

Ophichthus urolophus Franz, Abhandl. Kon. Bayer. Akad. Wiss., vol. 4, Suppl. Band 1, 1910, p. 13 (Yokohama). — Tanaka, Fig. Descr. Fishes of Japan, vol. 41, Dec. 23, 1927, p. 789, pl. 170, fig. 471 (Tokyo market).

Ophichthus stenopterus Cope

Ophichthys stenopterus Cope, Trans. Amer. Philos. Soc., ser. 2, vol. 14, 1871, p. 482. Japan.

Ophichthus stenopterus Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 17 (type).

Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 874 (compiled). —

2225

Ophichthus asakusae Jordan and Snyder

Ophichthus asakusae Jordan and Snyder, Proc. U. S. Nat. Mus., vol. , 1901, p. 872, fig. 18. Outside Tokyo Bay. — Franz, Abhand. Kon. Bayer. Akad. Wiss., vol. 4, Suppl. Band. 1, 1910, p. 13 (Sagami Bay). — Izuka and Matsumura, Cat. Zool. — Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912, p. 406 (Yokohama). — Jordan and Thompson, Mem. Carnegie Mus., vol. 6, 1914, p. 234 (Kobe).

2225

Aphichthus asakusai Jordan and Snyder

Aphichthus asakusai Jordan and Snyder, Proc. U. S. Nat. Mus., vol. , 1901, p. 872, fig. 18. Outside Tokyo Bay. — Franz, Abhand. Kon. Bayer. Akad. Wiss., vol. 4, Suppl. Band. 1, 1910, p. 13 (Sagami Bay). ✓ — Izuka and Matsumura, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920, p. 172 (Izu).

2226

Ophichthus tuchidae Jordan and Snyder

Ophichthus tuchidae Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 873, fig. 19. Misaki. — Franz, Abhandl. Kon. Bayer. Akad. Wiss., vol. 4, Suppl. Band 1, 1910, p. 14 (Yokohama).

Ophichthys tuchidae Deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.

Ophichthus habereri Franz, Abhandl. Kon. Bayer. Akad. Wiss., Vol. 4, Suppl. Band 1, 1910, p. 13. Yokohama.

Ophichthus singapurensis Bleeker

Ophichthys singapurensis Bleeker,
Atlas Ichth. Ind. Néerl., vol. 4, 1864,
p. 52, pl. (44) 188, fig. 1. Singapore.—
Günther, Cat. Fishes Brit. Mus., vol. 8,
1870, p. 71 (type). — Weber and Beaufort,
Fishes Indo Austral. Archipelago, vol. 3,
1916, p. 306 (type).

Ophichthus apicalis (Bennett)

Ophisurus apicalis Bennett, Life of Raffles, 1830, p. 692. Sumatra.

Ophichthys apicalis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 70 (types of Ophisurus spadiceus, Ophisurus compar, Ophisurus diepenhorsti). — Bleeker, Nederl. Tijdschr. dierk., vol. 4, 1871 (1874), p. 123 (reference). — Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Singapore). — Martens, Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 406 (Singapore). —

Gorgoza, Anal. Soc. Españ. Hist. Nat. Madrid, vol. 14, 1885, p. 74 (Manila). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 589 (Luzon, Manila Bay). — Ishikawa and Matsuura, Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 6. — Weber and Beaufort, Fishes

2229

Indo Austral. Archipelago, vol. 3, 1916, p. 305, fig. 145 (dentition) (Ihias, Batavia, Surabaya, Madura). — Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 204 (Natal and Zululand coasts). — Chen, Bull. Biol. Dep. Sun Yat-Sen Univ., vol. 1, No. 1, 1929, p. 20, fig. 11 (dentition) (Daipo, Sama, Ying Khow, Hoihow). — Wu, Contrib. Biol. Lab. Sci. Soc. China, vol. 5, No. 4, 1929, p. 34, fig. 27 (head) (Amoy).

2230

Ophichthus apicalis Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 174 (Manila, Malabon, Mindoro, Tamaguete, Cagayan de Misamis, Davao). — Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 61 (note).

Ophisurus spadiceus Richardson, Ichth. China Japan, 1846, p. 313. Canton, China; Voy. Erebus and Terror, Ichth., 1844-48, p. 103 (Canton).

Centurophis spadiceus Kaup, Archiv Naturges., 1856, pt. 1, p. 42 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 2, pl. 1, fig. 1 (head) (Canton, Madagascar, Vanikoro).

Centurophis (Ophisurus) spadiceus Guichenot, Mém. Soc. Sci. Cherbourg, ser. 2, vol. 2, 1866, p. 147 (Madagascar).

Ophichthys spadiceus Bleeker, Res. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

Ophisurus compar Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 105. Sumatra.

Coecilophis compar Kaup, Archiv Naturges., 1856, pt. 1, p. 44 (Sumatra); Cat. Apodal Fish Brit. Mus., 1856, p. 6 (Sumatra example).

Ophisurus bangko Bleeker, Verhand. Batavia. Genootsch. (Nuraen.), vol. 25, 1853, p. 67. Batavia, Java.

Centurophis bangko Kaup, Archiv Naturges., 1856, pt. 1, p. 42 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 42 (reference).

Ophichthys bangko Bleeker, Atlas Ichth. Ind. Néérl., vol. 4, 1864, p. 51, pl. (14) 158, fig. 1 (Java, Celebes).

Ophisurus diepenhorsti Bleeker, Act. Soc. Sci. Ind. Néérl. (Sumatra 8), vol. 8, 1859, p. (11) 85. Priaman, Sumatra.

2232

Ophichthys diepenhorsti Bleeker, Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 52, pl. (15) 159, fig. 4 (Sumatra, Celebes).

Ophichthys amoyensis Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1864, p. (56) 61. Amoy.

Ophichthys linkaouensis Chen, Bull. Biol. Dept. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, p. 23, pl. 2, fig. 2 (anterior body and tail end), fig. 2a (dentition). Linkaou.

Ophichthys linkaouensis Chen, Bull. Biol. Dept. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, errata.

Depth 18 2/5 to 31, head 7 3/5 to 9 4/5, 3 1/2 to
4 3/4.
vent, width 3, in its length,
combined head and trunk 1 1/4, in 1 2/3
5 2/5 to
tail. Snout 6 in head; eye 9 to 10,
to 1 4/5 1 to
1 2/5 in snout, 1 2/5 in interorbital;
1/2 to 1
mouth cleft extends eye diameter
to 3
behind eye, length 2 3/5, in head;
teeth conic, strong, short, above
slightly or irregularly biserial
anteriorly, below uniserial, on
vomer uniserial though little
irregular, partial circle of 8 on

premaxillary; interorbital 5 1/2, low, depressed, nearly level. Gill opening 5 1/2 to 10, equals interspace.

Lateral line complete, distinct.

Dorsal origin over last fourth of pectoral, fin height 6 1/4 to 1 in head; anal fin height 5 1/2 to 5 3/4. pectoral 2 2/3 to 2 4/5.

Brown, nearly uniform. Fins all uniformly paler. Iris light yellowish brown.

Natal, Madagascar, Singapore, East Indies, Philippines, China, Melanesia.

2235

1 example. Manila Bay, December 7, 1907. Length 67 mm.

1 example. Manila, Santa Cruz market. January 4, 1908. Length 253 mm.

8437. D. 5418. Lanis Point Light, N. 16° E., 5.6 miles (N. 10° 8' 50" E. 123° 52' 30"), between Cebu and Bohol. In 159 fathoms. March 25, 1909. Length 462 mm.

2236

Ophichthus intermedius Regan

Ophichthys intermedius Regan, Ann. Mag. Nat. Hist., ser. 7, vol. 15, 1905, p. 17. Inland Sea of Japan.

2237

Ophichthus macrochir (Bleeker)

Aphisurus macrochir Bleeker, Verh. Batavia. Genootsch. (Nuwaen.), vol. 25, 1853, p. 26. Batavia.

Centurophis macrochir Kaup, Archiv Naturges., 1856, pt. 1, p. 43 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 5 (compiled).

Ophichthys macrochir Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 54, pl. (20) 164, fig. 1 (Java). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 72 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 306 (Deli and Bagan Api Api, Sumatra; Batavia and Surabaya).

Ophichthus macrochir Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 175 (Cavite).

2238

Aphichthus manilensis Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 176, pl. 5. Cavite, Bulacan, Malabon, Mindoro.

2239

Ophichthus polyophthalmus Bleeker

Ophichthys polyophthalmus Bleeker,

Nederl. Tijds. Dierk., vol. 2, 1865, p. 43.

Amboyna; Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 47, pl. (42) 186, fig. 3 (type).

— Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 73 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 307 (type).

Ophichthus polyophthalmus Fowler, Bull. Bishop Mus., no. 38, 1927, p. 5 (Kunhei, Kahoolawe); Mem. Bishop Mus., vol. 10, 1928, p. 45 (Oceania; type of Microdonophis fowleri; Honolulu).

Ophichthus microcephalus Day

Ophichthys microcephalus Day, Fishes of India, pt. 4, 1878, p. 669, pl. 170, fig. 2.

Malabar.

2240

Microdonophis polyophthalmus Jordan and Snyder, Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 207 (Honolulu).

Microdonophis fowleri Jordan and Evermann, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 164. Honolulu. — Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 27, 1904, p. 940 (Hawaiian Islands). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 82, pl. 6 (type; Honolulu). — Jordan and Snyder, Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 208 (Honolulu).

Aphichthys bleekeri Volz, Zool.
Jahrb. Abth. Syst., vol. 19, 1903, p. 418.

Aphichthys garretti Günther, Journ.
Mus. Godeffroy, vol. 2, pt. , 1910, p. 397,
pl. 163, fig. A. Society Islands.

2242

Ophichthus melanochir Bleeker

Ophichthys melanochir Bleeker, Nederland.

Tijds. Dierk., vol. 2, 1864, p. 44. Amboina;

Atlas Ichth. Ind. Neérl., vol. 4, 1864,

p. 51, pl. (48) 192, fig. 3 (type). —

Weber and Beaufort, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 308 (type).

Ophichthys altipinnis (not Kaup)

Günther, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 74 (type of Ophichthys melanochir).

2243

Ophichthus ornatissimus (Kaup)

Herpetoichthys ornatissimus Kaup, Archiv Naturgesch., 1856, pt. 1, p. 44. Malabar, through Dussumier, Paris Museum; Cat. Apodal Fish Brit. Mus., 1856, p. 7, pl. 1, fig. 4 (not 5) (type).

Ophichthys ornatissimus Day, Fishes of Malabar, 1865, p. 67. — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 67 (copied). — Day, Fishes of India, pt. 4, 1878, p. 665; Fauna ~~British~~ India, Fishes, vol. 1, 1889, p. 97.

2244

Ophichthus erabo (Jordan and Snyder)
Microdonophis erabo Jordan and Snyder,
Proc. U. S. Nat. Mus., vol. 23, 1901, p.
870, fig. 17. Misaki, Japan. — Franz,
Abhandl. Kon. Bayer. Akad. Wiss.,
vol. 4, Suppl. Band 1, 1910, p. 13
(Fukuura and Aburatsubo). — Fowler,
Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 16 (Paratype). —
Izuuka and Matsuura, Cat. Zool. Spec.
Tokyo. Mus., Vertebr., 1920, p. 172
(Bozhin).

2245

Ophichthus altipennis (Kaup)

Microdonophis altipennis Kaup, Archiv Naturgesch., 1856, pt. 1, p. 43. Macassar.

Microdonophis altipinnis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 6, pl. 1, fig. 3 (not 4) (head) (type).

Muraenopsis altipinnis Bleeker, Nederland. Tijdschr. Dierk., vol. 1, 1863, p. 180 (Macassar).

Ophichthys altipinnis Bleeker, Atlas Ichth. Ind. Nérl., vol. 4, 1864, p. 50, pl. (13) 157, fig. 2 (Macassar). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 74 (part). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 308, fig. 146 (dentition) (type).

Depth 27; head 9 2/5, 3 2/3 to vent, width 4 in its length; combined head and trunk 1 2/3 in tail. Snout 5 1/3 in head; eye 7 3/4, 1 1/3 in snout, equals interorbital; mouth cleft extends 1/3 eye diameter behind eye, length 2 3/4 in head; teeth conic, slender, pointed, uniserial in jaws and on vomer, 2 rows on premaxillary; interorbital 7 1/8, convex. Gill opening 9 4/5, 1 3/4 in interspace.

Lateral line distinct, complete.

Dorsal origin eye diameter before gill opening, fin height 4 in head; anal fin height 5 2/5; pectoral 2 2/5.

Uniform brown largely. Under surface of head and region below pectoral pale or brownish white, leaving pharynx brown below. Pores on head dusky. Iris brown. Vertical fins brownish basally, broadly dusky to blackish terminally. Pectoral neutral black.

Previously only known from the type obtained at Macassar, Celebes. The species is readily known by its very high dorsal fin beginning before the gill opening.

8322. Bagacay Bay, Escarpada Island, between Samar and Masbate. March 12, 1909. Length 719 mm.

Ophichthus macclellandi (Bleeker)
Ophisurus macclellandi Bleeker,
Verh. Batavia. Genootsch. (Muraen.), vol.
25, 1853, p. 33. Batavia, Java.

Pisodonophis macclellandi Kaup, Archiv
Naturgesch., 1856, pt. 1, p. 48 (reference).
Pisoodonophis macclellandi Kaup, Cat.
Apodal Fish Brit. Mus., 1856, p. 19
(compiled).

Ophichthys macclellandi Bleeker, Atlas
Ichth. Ind. Néerl., vol. 4, 1864, p. 57, pl.
(15) 159, fig. 2 (type). — Günther, Cat.
Fishes Brit. Mus., vol. 8, 1870, p. 63

2250

(type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 311 (type).

Ophichthus rutidoderma (Bleeker)

Ophisurus rutidoderma Bleeker, Verh. Batavia. Genoot. (Nuraen.), vol. 25, 1853, p. 30, Batavia.

Pisodonophis rutidoderma Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Pisoodonophis rutidoderma Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 18 (Malay Archipelago).

Ophichthys rutidoderma Bleeker, Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 55, pl. (29) 173, fig. 3 (Batavia).

Ophichthys rhytidoderma Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 63 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 309 (type).

2252

Ophichthys rutidodermatoides (Bleeker)

Aphisurus rutidodermatoides Bleeker,

Verh. Batavia. Genoots. (Nuraen.), vol. 25, 1853, p. 31. Batavia.

Pisodonophis rutidodermatoides Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Pisoodonophis rutidermatoides Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 18 (compiled).

Ophichthys rutidodermatoides Bleeker, Atlas Ichth. Ind. Néerl, vol. 4, 1864, p. 55, pl. (16) 160, fig. 1 (type). Károli, Természetr. Füzetek, Budapest, vol. 1, 1881, p. 11 (Ceylon).

2253

Ophichthys rhytidodermatoides Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 62 (types; types of Ophisurus breviceps). — Károli, Termesz. Füzetek, Budapest, vol. 1, 1881, p. 184 (Ceylon). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 309, fig. 147 (dentition) (type). — Deraniyagala, Ceylon Administr. Rep., 1925, p. F15.

2254

Ophiurus breviceps (not Richardson) Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p. 1308, pl. 5, fig. 4 (Sea of Piniang).

Ophichthys breviceps Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 57, pl. (47) 191, fig. 4 (head above and dentition) (copied).

Ophiurus lumbricoides Bleeker, Verh. Batavia Genootsch. (Nuraen.), vol. 25, 1853, p. 32 (on Cantor).

Pisodonophis lumbricoides Kaup, Archiv Naturges., 1856, pt. 1, p. 48 (reference).

Pisoodonophis lumbricoides Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 21 (copied).

2255

Ophichthys lumbricoides Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 56, pl. (14) 158, fig. 3 (Batavia). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 310 (type).

Ophichthus lumbricoides Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 62 (compiled).

Ophichthys woosuiting Chen, Bull. Biol. Dep. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, p. 22. Ying Khow.

Ophichthys wooshuitingi Chen, Bull. Biol. Dep. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, pl. 1, fig. 1 (anterior body), fig. 1a (dentition) (errata).

2256

Ophichthus dicelburus (Richardson)

Ophisurus dicelburus Richardson,

Voy. Sulphur, Fishes, 1844, p. 106, pl. 48,

figs. 2-4. No locality; Voy. Erebus and

Terror, Ichth., 1844-48, p. 105 (estuary

Yang tze Kiang, China); Ichth. China

Japan, 1846, p. 312 (same material).

Muraenopsis dicelburus Kaup, Archiv

Naturgesch., 1856, pt. 1, p. 46 (reference,

error).

Muraenopsis dicelburus Kaup, Cat.

Apodal Fish Brit. Mus., 1856, p. 12

(China, estuary Yang tze Kiang).

2257

Ophichthys dicelluras Günther, Cat. Fishes Brit. Mus., vol. 8, 1879, p. 59 (type); Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p. 25 (Valparaiso). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 588 (Luzon, Cavite, Santa Cruz).

Ophichthus dicelluras Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 62 (compiled).

2258

Ophichthus unicolor Regan

Ophichthys unicolor Regan, Ann. Natal Gov. Mus., vol. 1, pt. 3, May 15, 1918, p. 250, fig. 1. Sixteen miles northeast of Bird Island, 40 fathoms; ~~vol. 1, pt. , 19 , p. 243~~ reference (~~Bird Island~~; no description). —

Thompson, Marine Biol. Rep. South Africa, vol. 3, 1916, p. 78 ( ). —

Gilchrist and Thompson, Ann. Durban Mus., vol. 1, pt. 4, 1917, p. 302 (compiled). —

Barnard, Ann. South Africa, vol. 21, pt. 1, 1925, p. 203 (Algoa Bay, 40 fathoms).

2259

Ophichthus marginatus (Peters)

Ophisurus marginatus Peters, Archiv Naturgesch., 1855, p. 272.
— Günther, Fishes of Zanzibar, 1866, p. 128.

Leptorhinophis marginatus Kaup, Archiv Naturgesch., 1856, pt. 1, p. 47 (Inhambane); Cat. Apodal Fish Brit. Mus., 1856, p. 14 (same example).

Ophichthys marginatus (Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 64 (no locality).

2260

Ophichthus celebicus (Bleeker)

Aphisurus celebicus Bleeker, Act. Soc. Sci. Ind. Neerland, no. 3, vol. 1, 1856, p. (6) To. Manado.

Ophichthys celebicus Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 54, pl. (15) 159, fig. 3 (types). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 311 (Macassar, Manado, Ambon). — Chen, Bull. Biol. dep. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, p. 20, fig. 10 (dentition) (Daipo, Pakhoi).

Ophichthus celebicus Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 62 (compiled).

2260

Ophichthus celebicus (Bleeker)

Ophisurus celebicus Bleeker, Act. Soc. Sci. Ind. Neerland, no. 3, vol. 1, 1856, p. (6) 70. Manado.

Ophichthys celebicus Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 54, pl. (15) 159, fig. 3 (types). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 311 (Macassar, Manado, Ambon). — Chen, Bull. Biol. Dep. Sun Yat-Sen Univ., vol. 1, no. 1, 1929, p. 20, fig. 10 ✓

Ophisurus brockmeijeri Bleeker, Act. Soc. Sci. Ind. Néerland, no. 3, vol. 1, 1856, p. (8) 71. Macassar.

Ophichthys brocksmeyeri Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 53, pl. (15) 159, fig. 1 (type). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 61 (type; types of Ophichthys amboinensis). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 589 (Luzon, Cavite, Santa Cruz).

Ophichthus brocksmeyeri Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 179, fig. 6 (teeth) (Malabon).

Ophichthys amboinensis Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1864 (1865), p. 45. Amboina; Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 54, pl. (45) 189, fig. 1 (type).

2262

Ophichthus elapsoides Castelnau

Ophichthys elapsoides Castelnau,

Victoria Offic. Rec. Philadelphia

Exhib. (Rev. Fish. Austral.), 1875, p.

47. Cape York, Queensland. — Macleay,

Proc. Linn. Soc. New South Wales, vol. 6,

pt. 2, 1881, p. 275 (compiled).

2263

Ophichthus versicolor (Richardson)

Ophisurus versicolor Richardson, Voy. Erebus and Terror, Ichth., 1844-48, pl. 103. Moluccas.

Elapsopis versicolor Kaup, Archiv Naturges., 1856, pt. 1, p. 45 (Moluccas).

Elapsopsis versicolor Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 10 (Moluccas).

Ophichthys versicolor Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 68 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 312 (type).

22 64

Aphichthus episcopus Castelnau

Aphichthys episcopus Castelnau, Proc. Linn. Soc. New South Wales, vol. 2, May 1878, p. 244. Moreton Bay, Queensland. — Macleay, Proc. Linn. Soc. New South Wales, vol. 6, pt. 2, 1881, p. 276 (reference).

2265

Ophichthus ornatissimus (Kaup)

Herpetoichthys ornatissimus Kaup,

Archiv Naturgesch., 1856, pt. 1, p. 44.

Malabar; Cat. Apodal Fish Brit. Mus.,

1856, p. 7, pl. 1, fig. 5 (head) (type).

Ophichthys ornatissimus Day, Fishes of

Malabar, 1865, p. 247 (Malabar). —

Günther, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 67 (copied). — Day, Fishes of

India, pt. 4, 1878, p. 665 (Malabar);

Fauna British India, Fishes, vol. 2,

1889, p. 97 (copied).

2266

Ophichthus algoensis Barnard

Ophichthus algoensis Barnard,
Ann. Mag. Nat. Hist., ser. 9, vol. 15,
1925, p. 498. Aloga Bay, 55
fathoms; Ann. South African Mus.,
vol. 21, pt. 1, 1925, p. 203 (type).
Ophichthys triserialis (not Kaup)
Barnard, Ann. South African Mus.,
vol. 13, pt. 8, 1923, p. 444.

2267

Genus Mystriophis Kaup

Mystriophis Kaup, Archiv Naturg., 1856, pt. 1, p. 45. Type Ophisurus rostellatus Richardson, designated by Bleeker, Naturk. Tijdschr. Dierk., vol. 2, 1865, p. 118.

Crotalopsis Kaup, Abhandl. naturw. Verein. Hamburg, vol. 4, pt. 2, 1859 (1860), p. 12. Type Crotalopsis punctifer Kaup, monotypic.

Crotalopis Jordan, Genera of Fishes, pt. 3, 1919, p. 297. Type Crotalopsis punctifer Kaup. (Error.)

Echiopsis Kaup, Abhandl. naturw. Verein. Hamburg, vol. 4, pt. 2, 1859 (1860), p. 13. Type Ophisurus intertinctus Richardson, monotypic.

Macrodonophis Poey, Repert. Fis. Nat. Cuba, vol. 2, 1867, p. 251. Type Macrodonophis mordax Poey, monotypic.

2268

Scytalichthys Jordan and Davis,
Rep. U. S. Fish Comm., pt. 16, 1888 (1892),
p. 634. Type Ophichthys minurus
Jordan and Gilbert, virtually monotypic.

Snout short. Eyes more or less
superior. Mouth large. Lips not
fringed. Teeth unequal, some as
long canines either on vomer or on
sides of one or both jaws. Vomerine
teeth small and fixed. Tail little
longer than rest of body. Dorsal
begins more or less behind gill
opening. Anal present. Pectoral
well developed.

2269

Species few, darkly spotted, differing from Ophicuthus chiefly by the presence of large canines.

2270

Ophichthus schneideri Steindachner

Ophichthys schneideri Steindachner,
Sitz. Ber. Akad. Wiss. Wien, math.-
naturw. Klasse, vol. 80, pt. 1, 1880, p. 184.

No locality.

Said to be close to the Atlantic
Mystriophis intertinctus (Richardson),
of which it is likely a synonym.

Analysis of species

a.' Pectoral 6; mouth cleft 2 1/5; space
between gill opening and dorsal
origin 1" 1/2 in head. porphyreus.

a.² Pectoral 4; mouth cleft 2; space
between gill opening and dorsal
origin 2. 1/2 in head. adspersus.

Mystriophus porphyreus (Schlegel)

Ophisurus porphyreus Schlegel, Fauna Japonica, Poiss., pl. , 1847, p. 265, pl. 116, Japan. — Bleeker, Verh. Batavia Genoot. (Nal. Ichth. Japan), vol. 25, 1853, p. 19 (reference).

Mystriophus porphyreus Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 11 (Japan). — Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 874 (Wakanoura).

Aphichthys rostellatus (not Richardson) Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 56 (Japan; not West African material).

2272

Myxtriophis adspersus (Günther)

Ophichthys adspersus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 57. China. — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 588 (Luzon, Manila). — Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 63 (copied).

2273

Genus Xyrias Jordan and Snyder

Xyrias Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 868. Type Xyrias revulsus Jordan and Snyder, orthotypic.

Mouth cleft large. Body elongate. Head large. Lips entire. Teeth all pointed, subequal, front ones somewhat enlarged, lower teeth large and mostly uniserial. Dorsal begins well behind dorsal tip. Pectoral present.

Japan. Differs from Ophichthus chiefly in the lateral upper teeth in a broad band of about 4 series.

2274

Xyrias revulsus Jordan and Snyder

Xyrias revulsus Jordan and Snyder,

Proc. U. S. Nat. Mus., vol. 23, 1901, p.

868, fig. 16. Near Misaki.

2275

Genus Cirrhimuraena Kaup

Cirrhimuraena Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 27. Type Cirrhimuraena chinensis Kaup, monotypic.

Body much elongated, cylindrical. Head rather small, pointed. Snout pointed, slightly protrudes before mandible. Eye small. Mouth cleft extends far beyond eye. Upper lip with row or fringe of barbels. Teeth equal, small, in bands in jaws and on vomer. Front nostril short tube on snout edge. (Tongue not free. Hind nostril slit on inner side of upper lip. Gill openings small, below and before pectoral base. Lateral line present. dorsal origin over or slightly behind gill openings, dorsal and anal not confluent short space from point of tail. Pectoral moderate. Vent premedian.

Known by the fringed upper lip.

Analysis of species

a.' Premaxillary teeth on under surface of snout exposed before closed mandible tip.

b.' Mouth cleft 3 in head; vomerine teeth biserial. arenicola.

b.² Mouth cleft 2 1/10 in head; vomerine teeth uniserial. paucidens.

a.² Premaxillary teeth on under surface of snout not exposed before closed mandible tip.

c.' Mouth cleft 4 in head; vomerine teeth uniserial. calamus.

c.² Mouth cleft 3 in head; vomerine teeth biserial.

d.' Head nearly 5 to vent; pectoral 4 in head. playfairii.

d.² Head 3 1/3 to vent; pectoral 2 in head. tapeinopterus.

c.[3] mouth cleft less than 3 in head; vomerine teeth broad band of 3 or 4 series of teeth.

e.' dorsal origin midway between hind eye edge and gill opening.
olivieri.

e.[2] dorsal origin above gill opening.
chinensis.

e.[3] dorsal origin behind pectoral base.
cheilopogon.

Cirrhimuraena

~~Ophichthus~~ arenicola (Klunzinger)

Ophichthys arenicola Klunzinger, Verh. Zool. Bot. Gesell. Wien, vol. 21, 1871, p. 609. Koseir, Red Sea. — Borsieri, Ann. Mus. Civ. Stor. Nat. Genova, vol. 41, 1904, p. 219 (Zula, Red Sea).

Cirrhimuraena fraucidens Herre and Myers

Cirrhimuraena fraucidens Herre and Myers, Lignan Sci. Journ., vol. 10, nos. 2-3, Eng. 1931, p. 249. Hoihow, Hainan.

2290

Cirrhimuraena calamus (Günther)

Ophichthys calamus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 74. Freemantle, Australia; Journ. Mus. Godeffroy, vol. 17, pt. , 1930, p. 400 (type). — Fowler and Ball, Bull. Bishop Mus., No. 26, 1925, p. 6 (Lahaina, Maui).

Ophichthus calamus Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 45 (Lahaina specimen).

Cirrhimuraena calamus McCulloch, Australian Mus. Mem., vol. 5, June 29, 1929, p. 69 (reference).

Microdonophis macgregori Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 422, fig. 2. Lahaina, Maui. — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 82, fig. 18 (type).

2781

Cirrhimuraena playfairii (Günther)

Aphichthys playfairii Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 76. Zanzibar. — Barnard, Ann. South African Mus., vol. 21, pt. 1, 1925, p. 205 (type; Delagoa Bay).

2082

Cirrhimuraena olivieri (Seale)

Jenkinsiella olivieri Seale, Philippine Journ. Sci., vol. 4, 1909, p. 493. Zamboanga.

Cirrhimuraena olivieri Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 165, pl. 2, fig. 2 (type).

Cirrhimuraena tapeinoptera Bleeker

Cirrhimuraena tapeinopteras Bleeker, Nederland Tijds. Dierk., vol. 1, 1863, p. 183. Java and Macassar; Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 41, pl. (8) 152, fig. 3 (Java; Celebes). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 291 (Macassar; Flores). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 165 (Manila Bay; Mindoro).

Cirrhimuraena tapeinoptera Kner, Reise Novara, Fische, 1865, p. 376 (Java).

Ophichthys tapeinopterus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 75 (type, from Java).

Ophichthus tapeinopterus Jordan and Seale, Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 6 (Cavite). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 238 (Manila).

2-64

Jenkinsiella nectura Jordan and Seale,
Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 6,
fig. 1. Cavite, Philippines.

2285

Cirrhimuraena chinensis Kaup

Cirrhimuraena chinensis Kaup, Archiv Naturg., 1856, pt. 1, p. 51. No locality; Cat. Apodal Fish Brit. Mus., 1856, p. 27 (China; Macassar). — Fowler, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 12, 1904, p. (Padang); Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 16 (Padang examples). — Weber, Siboga Expedt., vol. 57, Fische, 1913, p. 50 (Macassar). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 292, figs. 134-135 (Macassar specimen). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 23, 1923, p. 167 (Cavite and Manila Bay). — Chen, Bull. Biolog. dep. Sun Yat-Sen Univ., vol. 1, No. 1, 1929, p. 27 (copied). — Ww, Contrib. Biol. Lab. Sci. Soc. China, vol. 5, No. 4, 1929, p. 36, fig. 30 (head) (Amoy). — Fowler, Hong Kong Naturalist, vol. 3, No. 1, March 1932, p. 58, fig. 5 (Sumatran examples).

2566

Ophichthys chinensis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 75 (China; type of Ophisurus polyodon). — Gorgoza, Ann. Soc. Espan. Hist. Nat., Madrid, vol. 14, 1885, p. 74 (Manila). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 590 (Luzon; Manila).

Ophisurus polyodon Bleeker, Act. Soc. Sci. Ind. Neerl. (Sumatra 8), vol. 8, 1859, p. (11) 86. Priaman, Sumatra.

Depth 28 1/4 to 35; head 8 1/2 to 9 4/5, 3 1/8 to 3 1/3 to vent, width 3 7/8 to 4 1/3 its length; combined head and trunk 2 2/5 in tail. Snout 7 to 7 2/3 in head; eye 23, 2 1/4 to 3 in snout, 1 1/4 in interorbital; mouth cleft extends 3 1/2

eye diameter, behind eye, length 2 3/5 to 2 1/2 in head; teeth minute, simple, conic, in broad bands in jaws, also median similar band on vomer; upper lips with fringe of cirri, lower entire; interorbital 2 in snout, little convex. Gill opening 1 1/5 in snout, low, 1 1/4 in interspace. 2267

Lateral line prominent, complete.

Dorsal origin over pectoral origin to 1/5 of depressed pectoral fin length. Dorsal and anal very low. Pectoral 2 1/3 in head.

2268

Brown, little paler on under surfaces. Iris gray. Dorsal brown. Anal pale.

East Indies, Philippines, China.

1 example A.N.S.P. Padang, Sumatra. A.C. Harrison and Hiller. Length 3.81 mm. Brown above, made up of minute dark dots as seen under a lens. Whitish or brownish white below. Dorsal dark brown. Anal and pectoral pale brown.

6260. Manila market. June 12, 1908. Length 283 mm.

Cirrhimuraena cheilopogon (Bleeker)

Ophisurus cheilopogon Bleeker, Act. Soc. Sci. Ind. Neerl. (Celebes 13), vol. 8, 1860, p. 59. Badjoa, Celebes.

Cirrhimuraena chilopogon Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 42 (type). — Weber and Beaufort, Fishes Ind. Austral. Archipelago, vol. 3, 1916, p. 293 (Timor specimen).

Cirrhimuraena cheilopogon Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, pl. (19) 163, fig. 2. — Weber, Siboga Exped., vol. 57, Fische, 1913, p. 51 (south coast Timor).

Ophichthys chilopogon Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 76 (type).

2290

Genus Brachysomophis Kaup

Brachysomophis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 9. Type Brachysomophis horridus Kaup, monotypic.

Achiropsichthys Bleeker, Nederl. Tijdschr. Dierk., vol. 2, (1865) p. 42. Type Achiropsichthys typus Bleeker, monotypic.

Body elongate, more or less cylindrical Head moderate. Snout short, pointed. Eye small, far advanced in head, somewhat directed upward. Mouth cleft very wide, jaws subequal

or lower somewhat protruded. Teeth unequal, canine like on vomer and mandibles, smaller and biserial or uniserial in maxillaries. Front nostrils in tube surrounded by prominent wall, hind nostrils in upper lip directed downward, before front of eye. Tongue not free. Gill openings lateral, rather wide. Dorsal begins shortly or at some distance behind gill openings, like anal ends shortly before end of tail. Pectoral small or absent. Vent little premedian or postmedian.

Analysis of species

a.' Brachysomophis. Pectorals present.

b.' Pectorals 10 or 11 in head. crocodilinus.

b.² Pectoral 8 1/3 in head. henshawi.

a.² Leiuophichthys. No pectorals.

c.' Maxillary teeth uniserial; lips not papillated. kampeni.

c.² Maxillary teeth biserial; lips papillated. typus.

Brachysomophis crocodilinus (Bennett)

Aphisurus crocodilinus Bennett, Proc. Comm. Zool. Soc. London, 1833, pt. 1, p. 32. Mauritius.

Aphichthys crocodilinus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 64 (Galapagos Islands). — Schmeltz, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Havaii, Tahiti). — Günther, Journ. Mus. Godeffroy, vol. 10, pt. ?, 1910, p. 398 (Mauritius, Havaii, Tahiti, Galapagos).

— Jugmayer, Abhandl. Kön. Bayer. Akad. Wiss., Math.-physik. Klasse, vol. 26, band 6, 1913, fl. 9 (Mekran; Oman).

Aphichthys (Bascanichthys) crocodilinus Steindachner, Denks. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 71, pt. 1, 1907, p. 159 (Bal Hâf).

2294

Brachysomophis crocodilinus (Bennett

Ophisurus crocodilinus Bennett, Proc.

Comm. Zool. Soc. London, 1833, pt. 1, p.

32. Mauritius.

Brachysomophis crocodilinus Bleeker,

Rech. Faune Madagascar, pt. 4, 1874,

p. 72 (reference). — Vaillant, Bull.

Soc. Philomath. Paris, ser. 7, vol. 11, 1886-

87, p. 52 (Tahiti). — Jordan and Davis,

Rep. U. S. Fish Comm., pt. 16, 1888 (1892),

p. 636 (compiled). — Jordan and Snyder,

Proc. U. S. Nat. Mus., vol. 23, 1901, p. 875

(compiled). — Fowler, Mem. Bishop

Mus., vol. 10, 1928, p. 46 (compiled),

vol. 11, No. 5, 1931, p. 316 (reference).

Brachysomophis (Brachysomophis

crocodilinus Weber and Beaufort, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 318,

fig. 148 (copied).

2295

Brachysomophis horridus Kaup,

Archiv Naturges., 1856, p. 45. Otaheite through Lesson and Gaimard, Cat. Apodal Fish Brit. Mus., 1856, p. 9, pl. 1, fig. 6 (head) (types). —

Bleeker, Atlas Ichth. Ind. Neerland., vol. 4, 1864, (p. 35), pl. (10) 154, fig. 3.

2296

Brachysomophis henshawi Jordan and Snyder

Brachysomophis henshawi Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 27, 1904, p. 940. Honolulu, Hawaiian Islands. —

Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 87, pl. 7 (type). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (type).

Ophichthys henshawi Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 398 (Tahiti; Society Islands).

2297

Brachysomophis kampeni (Weber and Beaufort)

Brachysomophis (Achiropsichthys) kampeni Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 316, figs. 150 - 151. Humboldt Bay near mouth of Mbai River, New Guinea.

Brachysomophis typus (Bleeker) Achirophichthys typus Bleeker, Nederl. Tijdschr. Dierk., vol. 2, 1864 (1865), p. 42. Manado ?, Celebes.

Brachysomophis typus Bleeker, Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 39, pl. (47) 191, fig. 3 (type). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 65 (note). — Pöhl, Cat. Mus. Godeffroy, no. 9, 1884, p. 40 (Viti). — Günther, Journ. Mus. Godeffroy, vol. 10, pt. , 1910, p. 398 (note). — Fowler, Mem. Bishop Mus., vol. 11, no. 5, 1931, p. 316 (reference).

Brachysomophis (Achirophichthys) typus Weber and Beaufort, Fishes Indo-Austral. Archipelago, vol. 3, 1916, p. 317, fig. 152 (dentition) (type).

Genus Oxystomus Rafinesque

Oxystomus Rafinesque, Ind. Itt. Sicil., 1810, pp. 49, 62. Type Oxystomus hyalinus Rafinesque, monotypic.

Leptognathus Swainson, Nat. Hist. Animals, vol. 1, 1838, p. 221. Type Leptognathus oxystomus Swainson, monotypic.

Anepistomon Gistel, Naturges. Thierr., 1848, p. IX. Type Leptorhynchus capensis Smith, monotypic.

Head compressed, snout very long, attenuate, clavate at tip, more than 1/4 of head. Eyes lateral. Jaws slender, elongate. Teeth pointed, none molar. Vomerine teeth present. Canine teeth strong. Front nostril

in short tube near snout tip. 2-3.00

Dorsal and anal fins distinct.

Tail much longer than trunk.

Pectoral developed, longer than

eye.

Ophisurus serpens (Linnaeus)

Muraena serpens Linnaeus, Syst. Nat., ed. 10, 1758, p. 244. Southern European Ocean; ed. 12, pt. 1, 1766, p. 425 (copied). — Brünnich, Ichth. Massil., 1768, p. 11 (Marsailles). — Cetti, Fauna Sardica, 1784, p. 25. — Bonnaterre, Tabl. Ichth., 1788, p. 34 (Mediterranean). — Gmelin, Syst. Nat. Linnaeus, 1789, pt. 1, p. 1133 (Southern European Ocean). — Walbaum, Artedi Pisc., vol. 3, 1792, p. 149 (copied). — Schneider, Syst. Ichth. Bloch, 1801, p. 487 (European Ocean). — Bosc, Nouv. Dict. Hist. Nat. Paris, vol. 23, 1818, p. 539 (Mediterranean). — Kaup, Archiv Naturgesch., 1856, pt. 1, p. 44 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 7 (Naples, Cape of Good Hope, Japan).

Ophichthus serpens Ahl, Spec. Ichth. Muraen. Oph., June 1789, p. 10 (Southern European Ocean).

Ophichthys serpens Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 65 (Naples, Mediterranean, Atlantic Ocean, Demara Land, type of Ophisurus macrorhynchus, Australia). — Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, 1878, p. (355) 395 (Port Jackson). — Osorio, Jorn. Sci. Math. Acad. Lisboa, ser. 2, vol. 3, Aug. 1893, p. 135 (Benguella, Angola). — Ishikawa and Matsmura, Prelim. Cat. Fish. Mus. Tokyo, 1897, p. 6. — Thompson, Marine Biol. Rep. South Africa, vol. 3, 1916, p. 77. — Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 202, pl. 9, fig. 3 (Walfish Bay to Table Bay, False Bay to East London).

Ophisurus serpens Lacépède, Hist. Nat. Poiss., vol. 3, 1800, pp. 195, 198 (Rome, Mediterranean). — Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 106 (Mediterranean; Atlantic Ocean). — Bonaparte, Cat. Metod. Pesc. Europ., 1846, p. 39 (Atlantic; Mediterranean). — McClelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 211 (Europe). — Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 637 (Palermo). — Stead, Fishes of Australia, 1906, p. 44. — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 18 (Italy).

— Schlegel, Fauna Japonica, Poiss., pt. , 1847, p. 264.

Sphagebranchus serpens Lowe, Trans. Zool. Soc. London, vol. 3, pt. 1, 1839, p. 17. (Madeira).

Leptognathus serpens Steindachner, Vitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 53, pt. 1, 1866, p. 473, pl. 2, fig. 2-a (Port Jackson).

Oxystomus serpens Franz, Abhandl. Kön. Bayer. Akad. Wiss., vol. 4, Suppl. Band 1, 1910, p. 14 (Yokohama and Uraga Canal)

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Echelus oxyrinchus Rafinesque, Carrat. Inov. Animal. Sicil., 1810, p. 64. Sicily.

Leptognathus oxyrynchus Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 396 (Sicily).

Leptognathus oxyrhynchum Mc Clelland, Calcutta Journ. Natt. Hist., vol. 5, 1845, p. 211 (Sicily).

Echelus microphthalmus Rafinesque, Carrat. Inov. Animal. Sicil., 1810, p. 64. Sicily.
Plant.

Oxystomus hyalinus Rafinesque, Ind. Itt. Sicil., 1810, p. 62. Sicily. (Larva.)

Leptorhynchus capensis Smith, Illust. Zool. South Africa, 1840, pl. 6. Table Bay, South Africa. — Bleeker, Natuurk. Tijdschr. Nederl. Indië, vol. 21, 1860, p. 56 (reference).
Fishes,

Isurgenes acutirostris Gray, Cat. Fish Brunow, 1854, part 9.

2306

Ophisurus macrorhynchos Bleeker, Verhand. Batavia. Genootsch. (Muraen.), vol. 25, 1852, p. 28. Japan near Kaminoseki; (Hal. Schth. Jap.), vol. 25, 1853, p. (19) 54 (compiled); Act. Soc. Ind. Neerl., no. 3, vol. 3, 1857–58, p. 6 (Japan).

Ophisurus macrorhynchus Izumiya and Matsuura, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920, p. 171 (Tateyama).

Muraena acutirostris Gray, Cat. Fish Gronow, 1854, p. 19.

Ophisurus novae zealandiae Hector, Trans. New Zealand Instt., vol. 2, April 1870, p. 34, pl. 3. Poverty Bay, New Zealand.

Ophichthys serpentinus Veale, Bull. Mus. Comp. Zool., vol. 61, no. 4, May 1917, p. 84 Cape of Good Hope.

2307

Genus Bascanichthys Jordan and Davis

Bascanichthys Jordan and Davis,
Rep. U. S. Fish Comm., pt. 16, 1888 (1892),
p. 621. Type Coecula bascanium Jordan,
orthotypic.

Body elongate, subterete. Teeth
pointed. Dorsal moderate, begins on
front part of head. Pectorals
present, small.

Analysis of species

a.' Pectoral 4 to 5 in head; large black
spots and cross bands. cirrhochilus.

a.² Pectoral 3 in head; trunk with 8 broad
black cross bands, 15 on tail, head with
small round black spots. pinguis.

2308

Bascanichthys cirrocheilos (Bleeker)
Ophisurus cirrocheilos Bleeker, Act. Soc.
Sci. Ind. Néerl., no. 7, vol. 2, 1857, p. (8)

89. Amboina.

Bascanichthys cirrhochilus Bleeker, Atlas
Ichth. Ind. Néerland, vol. 4, 1864, p. 38
(not pl. 9, 153) (types).

Ophichthys cirrhochilus Günther, Cat.
Fishes Brit. Mus., vol. 8, 1870, p. 65
(Formosa; type).

2309

Ophichthys cirrochilus Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 589 (Luzon, Cavite, Santa Cruz).

Ophichthys cirrhochilus Zugmayer, Abhandl. Kön. Bayer. Akad. Wiss., Math.-phys. Kl., vol. 26, band 6, 1913, p. 9 (Aman).

Brachysomophis (Brachysomophis) cirrhochilus Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 315, fig. 148, text fig. 149 (dentition) (Ambon).

2310

Bascanichthys pinguis (Günther)

Ophichthys pinguis Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 10, 1872, p. 425. Solomon Islands; Cruise of (410)
Curaçoa, Brenchley, 1873, p. 430, pl. 35 (type); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 399 (type).

Ophichthus pinguis Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Bascanichthys hemizona Ogilby, Proc. Linn. Soc. New South Wales, vol. 22, pt. 2, Oct. 25, 1897, p. 248. Port Jackson.

Genus Callechelys Kaup

Callechelys Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 28. Type Callechelys guichenoti Kaup, monotypic.

Body greatly elongate, cylindrical. Head short. Snout convex, more or less depressed and pointed, projects beyond mouth. Eye small, advanced to first fifth or sixth of head. Mouth cleft reaches below or behind eye. Edge of upper lip without or only with few filaments. Teeth few, acute, recurved, subequal, without canines, uniserial, partly biserial or on all bones biserial. Front nostrils short tube on edge of snout. Hind nostrils slit or short tube in upper lip below front border of eye or anterior. Gill openings small, lateral. Lateral line present. Dorsal origin above mouth angle or somewhat

posterior, not confluent with anal, both ending short space from tail tip. Pectorals absent or only a filament.

Tropical seas, Indo Pacific, Gulf of Mexico.

Analysis of species

a.' No pectorals.

b.' Border of upper lip with 3 filaments; color uniform. tibogae.

b.² Upper lip without filaments.

c.' Marbled brown and yellow; head and body 1 3/4 in tail. marmoratus.

c.² Broad black band along upper part of sides; head and body 2 1/3 to 3 in tail. melanotaenia.

a.² Pectorals reduced to minute filament. filaria.

2313

Callechelys siboga Weber

Callechelys siboga Weber, Siboga

Exped., vol. 57, Fische, 1913, p. 49,

fig. 11. Roimimi Bay, South east Timor.

— Weber and Beaufort, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p.

288, fig. 133 (type).

2314

Callechelys marmoratus (Bleeker)

Dalophis marmorata Bleeker, Verhand. Batavia. Genootsch (Muraen.), vol. 25, 1853, p. 37. Siboga, western Sumatra.

Sphagebranchus marmoratus Kaup, Archiv Naturges., 1856, pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 26 (compiled).

Callechelys marmoratus Bleeker, Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 66, pl. (11) 160, fig. 2 (type). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 288 (type; Mauritius; Pelew Islands). —

Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 43 (Honolulu; type of Callechelys luteus).

2315

Ophichthys marmoratus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 88 (type); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 404 (Tahiti, Pelew Islands, Hawaii).

Callechelys quichenoti Kaup, Archiv Naturg., 1856, pt. 1, p. 52. Otaheite: Paris Museum; Cat. Apodal Fish Brit. Mus., 1856, p. 28, pl. 3, fig. 13 (head) (type). — Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 88 (note). — Pellegrin, Bull. Mus. Hist. Nat. Paris, vol. 18, 1912, pp. 206, 207 (type; Port Sandwich, New Hebrides).

Callechelys luteus Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 517, pl. 3, fig. 5. Southern coast of Molokai.

— Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 86, pl. 8, fig. 1 (type).

2316

Callechelys melanotaenia Bleeker

Callechelys melanotaenia Bleeker,
Nederl. Tijdschr. Dierk., vol. 2, 1864,
p. 213. Amboina; Atlas Ichth. Ind-
Neerl., vol. 4, 1864, p. 66, pl. (49) 103,
fig. 2 (type). — Klunzinger, Verh.
Zool. Bot. Gesell. Wien, vol. 21, 1871,
p. 612 (Red Sea). — Jordan and
Snyder, Proc. U. S. Nat. Mus., vol. 23,
1901, p. 865 (Yaeyama, Riu Kiu). —
Weber and Beaufort, Fishes Indo Austral.
Archipelago, vol. 3, 1916, p. 289 (Leiden
Museum Specimen). — Izuka and
Matsumura, Cat. Zool. Spec. Mus. Tokyo,
Fertebr., 1920, p. 170 (Hojo, Boshiu). —
Fowler, Mem. Bishop Mus., vol. 10, 1928,
p. 43 (Palmyra Island).

Aphichthys melanotaenia Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 87 (type). — Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Apaman. Island, Gilbert Group). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 403 (Apamana).

2318

Ophichthus bitaeniatus Peters

Ophichthys bitaeniatus Peters,
Monatsber. Akad. Wiss. Berlin, 1877,
p. 556, fig. 2. Mombasa.

Callechelys filaria (Günther Aphichthys filaria Günther, Ann. Mag. Nat. Hist., ser. 4, vol. 10, 1872, p. 425. Misol Island; Cruise of Curacoa, Brenchley, 1873, p. 428 (type); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 404 (type; Samoa).

Callechelys filaria Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 290 (type; Samoa). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 43 (Viti, Fiji); vol. 11, No. 5, 1931, p. 316 (reference).

Bascanichthys pusillus Seale, Bull. Mus. Comp. Zool., vol. 61, No. 4, 1917, p. 81. Fiji. — Whitley, Journ. Pan. Pacific Res. Inst., Vol. 2, No. 1, Jan.-March, 1927, p. 4 (Fiji).

Genus Stethopterus Bleeker

Stethopterus Bleeker, Verh. Batavia. Genoot. (Muraen.), vol. 25, 1853, p. (24)

36. Type Ophisurus vimineus Richardson, monotypic.

Leiuranus Bleeker, Verh. Batavia. Genoot. (Muraen.), vol. 25, 1853, p. (11)

36. Type Leiuranus lacepedii Bleeker, monotypic.

Body elongate, cylindrical. Head small. Snout pointed. Eye small. Mouth small, cleft extends beyond eye and upper jaw much protruded. Teeth pointed, moderate, 10 in one series each side of maxillaries and mandibles. Premaxillary plate with 4 teeth, far distant from maxillary series in

Tongue not free. 2321.

furrow between nostrils. Front nostrils in tubes on flattened lower surface of snout. Hind nostrils rather wide, in upper lip, directed downward, anteriorly with flap. Gill openings lateral, small, vertical slits, separated by wide interspace. Dorsal origin short space behind gill openings. Dorsal and anal not confluent, no caudal. Pectorals small. Vent postmedian.

East Indies, Japan, Oceania.

Analysis of species

a.' Black cross bands 25 to 34; V semicinctus, snout strongly protruded. pectoral 5 or 6;

a.² Body marbeled brown; pectoral 4'/6; jaws nearly even. lithinus.

Stethopterus semicinctus (Lay and Bennett)
Ophisurus semicinctus Lay and Bennett,
Zool. Beechey's Voy., Aug. 1839, p. 66,
pl. 20, fig. 4. Oahu?

Liuranus semicinctus Günther, Cat. Fishes
Brit. Mus., vol. 8, 1870, p. 54 (East Indies,
Fiji, type of Ophisurus vimineus). —
Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874,
p. 37 (South Sea). — Martens, Preuss.
Exped Ost Asien, vol. 1, 1876, p. 406
(Amboina; Larentuka). — Steindachner,
Sitz. Ber. Akad. Wiss. Wien, Math.-
naturw. Klasse, vol. 115, pt. 1, 1906, p. 1422

(Upolu). — Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 39 (Samao, Fiji, Tahiti). — Mc Culloch, Proc. Linn. Soc. New South Wales, vol. 36, 1911, p. (Murray Island). — Ogilby, Mem. Queensland, vol. 1, 1912, p. (Darnley Island).

Lienardus semicinctus Schmeltz, Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (South Sea). — Pöhl, Cat. Mus. Godeffroy, No. 9, 1884, p. 40 (South Sea). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1900, p. 494 (Hawaiian Islands). — Jordan

and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 866 (Yaeyama, Rui Kui). — Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 516 (Honolulu). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 81 (Yaeyama example). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 194 (Apia). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, 1911, p. 246 (Arno Atoll, Marshalls). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 13 (Hawaiian

Islands). — Beaufort, Bijd. Dierk. Amsterdam, vol. 19, 1913, p. 99 (Haneda). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 294, fig. 137 (Haneda material; Musa Laut). — Fowler, Copeia, No. 112, Nov. 20, 1922, p. 82 (Hawaiian Islands). — Herre, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 163 (Dumaguete and Siitanki). — Fowler and Ball, Bull. Bishop Mus., No. 26, 1925, p. 6 (Johnston Island). — Deraniyagala, Ceylon Administr. Rep., 1925, p. F 15. — Fowler,

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Mem. Bishop Mus., vol. 10, 1928, p. 44 (Hawaiian Islands, Guam, Honolulu, Johnston Island, Samoa, Arno, Apiang, Ebon). — Whitley, Journ. Pan Pacific Res. Inst., vol. 3, no. 1, Jan. March, 1928, p. 11 (Santa Cruz Islands). — Chen, Bull. Sun Yat-sen Univ., vol. 1, no. 1, 1929, p. 24 (on Richardson). — Fowler, Mem. Bishop Mus., vol. 11, no. 5, 1931, p. 316 (reference).

Stethopterus semicinctus Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 58, fig. 6 (Micronesia, Polynesia, Hawaii). Proc. U. S. Nat. Mus., vol. 84, art. 8, 1932, p. 2 (Hinafoou).

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Ophisurus vimineus Richardson, Voy. Sulphur, Fishes, 1844, p. 107, pl. 52, figs. 16-20. China; Ichth. China Japan, 1846, p. 314 (China); Voy. Erebus and Terror, Ichth., 1844-48, p. 106 (China).

Leiuranus lacepedii Bleeker, Verhand. Batavia. Genoot. (Muraen.), vol. 25, 1853, p. (11) 36. Sibogha.

Leiuranus colubrinus (not Boddaert) Kaup, Archiv Naturges., 1856, pt. 1, p. 42 (compiled); Cat. Apodal Fish Brit. Mus., 1856, p. 2 (China, Mauritius, Malay Archipelago).

— Bleeker, Atlas Ichth. Ind. Néerl.,

Mem. Bishop Mus., vol. 10, 1928, p. 44 (Hawaiian Islands, Guam, Honolulu, Johnston Island, Samoa, Arno, Apiang, Ebon). vol. 11, no. 5, 1931, p. 316 (reference).

vol. 4, 1864, p. 42, pl. (19) 163, fig. 1 (Java, Cocos, Sumatra, Batu). — Kner, Reise Novara, Fische, 1865, p. 378 (locality?). — Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference). Ophichthus colubrinus Veale, Occas. Pap. Bishop Mus., vol. 1, No. 3, 1900 (1901), p. 62 (Guam).

Ophisurus multizonus (Cuvier) Kaup, Archiv Naturges., 1856, pt. 1, p. 42 (name in synonymy).

Ophichthys cobra de Vis, Proc. Linn. Soc. New South Wales, 1883 (1884), p. 455. South Sea Islands.

Depth 44 to 58; head 1 2½ to 13⅓, 5 4/5 to 6 to vent, width 4½ to 5 in its length; combined head and trunk 1⅛ in tail. Snout 4 3/4 to 6½ in head; eye 9 2/5 to 13, 1½ to 2⅕ in snout, 1⅕ to 1⅓ in interorbital; mouth cleft extends eye diameter behind eye, length 2 4/5 to 3½ in head; teeth minute, uniserial in jaws, several rather large canine ones on premaxillary well before closed mandible tip; interorbital 7¼ to 10, well depressed, slightly convex.

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Gill opening 9 1/2 to 12 1/5, 1 1/2 to 1 3/4 in interspace.

Lateral line distinct, complete.

Dorsal origin begins eye diameter before gill opening to point opposite pectoral origin, fin height 6 1/2 in head; anal subequally low as dorsal; pectoral 6 1/4 to 10.

Pale brown or yellowish brown, with 22 to 26 broad deep or blackish brown cross bands, saddle like on trunk or incomplete though entirely continuous on tail. Tip of snout and

Type no. U.S.N.M.

8322. Bayacay Bay, Escarpada Island, between Samar and Masbate.

March 12, 1909. Length 719 mm.

(For José Gorgoza y Gonzalez, who studied Philippine fishes in 1885.)

tail whitish. With age dark bands may be divided partially by pale median bar, at least larger blotches. Fins pale, dark bands extending on vertical ones. Iris gray.

Mauritius, East Indies, Philippines, China, Riu Kiu, Queensland, Melanesia, Micronesia, Polynesia, Hawaii.

7332

4988. Bongao Anchorage, Sulu Archipelago, Tawi Tawi. February 22, 1908. Length 203 to 407 mm. 3 examples.

21659. Cebu market. August 28, 1909. Length 151 mm.

14119 and 14120. Great Tobea Island tide pools. December 15, 1909. Length 268 to 384 mm.

2 examples A.N.S.P. Hawaiian Islands. Length 318 to 336 mm.

2333

Stethopterus lithinus (Jordan and Richardson)

Leiuranus lithinus Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 238, fig. 3. Cuyo.

Genus Caecula Cuvier

Caecula Cuvier, Skrivt. Naturh. Selsk. Köbenhavn, vol. 3, 1794, pp. 2, 149. Type Caecula apterygera Cuvier, monotypic.

Aphagebranchus Bloch, Naturg. Ausland. Fische, vol. 9, 1795, p. 88. Type Aphagebranchus rostratus Bloch, monotypic.

Caecilia (not Linnaeus) Lacépède, Hist. Nat. Poiss., vol. 2, 1800, p. 135. Type Caecilia branderiana Lacépède = Muraena caeca Linnaeus.

Apterichtus Duméril, Zool. Analytique, 1806, p. (112) 331. Atypic. Type Muraena caeca Linnaeus, affixed by Jordan and Evermann, Genera of Fishes, pt. 1, 1917, p. 75.

2335

Apterichthys Delaroche, Ann. Mus. Hist. Nat. Paris, vol. 13, 1809, p. 325. Type Muraena caeca Linnaeus.

Dalophis Rafinesque, Caratt. Inqv. Ittiol. Animal. Sicil., 1810, p. 69. Type Dalophis bimaculata Rafinesque.

Scopoli 1777

? Pterurus (not Pterourus) Rafinesque, Ind. Itt. Sicil., 1810, p. 59. Type Pterurus flexuosus Rafinesque.

→

Typhlotes Fischer, Zoognos. Tab. Synopt. Illustr., ed. 3, vol. 1, 1813, p. 75. Type Aphagebranchus rostratus Bloch, virtually. Typhlotes Fischer proposed to replace Aphagebranchus Bloch.

Ichthyaptid acutirostris Brissout de Barneville, monotypic.

Lamnostoma Kaup, Archiv Naturg., 1856, pt. 1, p. 49. Type Lamnostoma pictum Kaup = Dalophis orientalis McClelland.

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Apterichthys Delarocke, Ann. Mus. Hist. Nat. Paris, vol. 13, 1809, p. 325. Type Muraena caeca Linnaeus.

Dalophis Rafinesque, Caratt. Inqv. Tian. Animal. Sicil., 1810, p. 69. Type Dalophis bimaculata Rafinesque.

Scopoli 1777

? Pterurus (not Pterourus) Rafinesque, Ind. Itt. Sicil., 1810, p. 59. Type Pterurus flexuosus Rafinesque.

→

Branderius Rafinesque, Analyse de la nature, 1815, p. 93. Type Muraena caeca Linnaeus, virtually. Branderius Rafinesque proposed to replace Sphagebranchus Bloch.

Ichthyapus Brissout de Barneville, Rev. Mag. Zool., 1847, p. 219. Type Ichthyapus acutirostris Brissout de Barneville, monotypic.

Lamnostoma Kaup, Archiv Naturg., 1856, pt. 1, p. 49. Type Lamnostoma pictum Kaup = Dalophis orientalis McClelland.

Anguisurus Kaup, Archiv Naturges., 1856, pt. 1, p. 24. Type Anguisurus punctulatus Kaup, monotypic.

Ophisurapus Kaup, Archiv Naturges., 1856, pt. 1, p. 52. Type Ophisurapus gracilis Kaup, monotypic.

Ophisuraphis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 29. Type Ophisuraphis gracilis Kaup, monotypic.

Verma Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896, p. 374. Type Sphagebranchus kendalli Gilbert.

Scytalburus Duméril, Mem. Acad. Sci. Paris, vol. 27, 1856, p. 192. Type Sphagebranchus imberbis Delaroche, monotypic.

Pelia (Schlegel) Bleeker, Nat. Verh. Holl. Maatsch. Haarlem, vol. 18, no. 2, 1863, p. 128. Type Pelia cephalopeltis (Bleeker) Schlegel, monotypic. Name in synonymy.

Body well elongated, cylindrical. Head short or moderate. Snout pointed, projects beyond mouth, with shark like profile. Eyes small, before or above middle of mouth cleft. Mouth small, reaches behind or far behind eye. Lips without filaments. Teeth small, conic, pointed, mostly uniserial. Vomerine teeth equal in size, stouter, biserial. Tongue scarcely free in front. Front nostril tubular, at border of upper lip, or at ventral surface of prominent part of snout. Hind

Hind nostril slit in border of upper lip, faces downward. Gill slits small, close together, inferior, vertical or converge forward. No scales. Lateral line present. Dorsal origin above or generally more or less behind gill openings. Dorsal and anal sometimes absent, or very low, not confluent, ending at short distance from end of tail. No pectorals.

Small eels, mostly living on sandy shores of temperate and tropical seas, some entering fresh water.

The following doubtful:

Caecula catostomus (Schneider)

Aphagebranchus catostomus Schneider, Syst. Ichth. Bloch, 1801, p. 536. "Tahiti".

Caecula catostomus Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (compiled).

Muraena cocca (not Linnaeus) (Forster) Lichtenstein, Descript. Animal., 1844, p. 230 (Tahiti).

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Analysis of species

a.' Gill openings ventral, oblique or longitudinal slits, anteriorly (superiorly) with duplicature of gill membranes.

b.' Vertical fins present as low fold.

c.' Space between gill opening and dorsal origin 2 1/3 to 4 in head. polyophthalma.

c.² Space between gill opening and dorsal origin 7 in head. orientalis.

c.³ Dorsal origin at last fourth of body. aculiceps.

b.² No vertical fins; head and trunk 1 1/2 in tail; head 4 to vent. vulturis.

a.² Gill openings more or less ventral, vertical, oblique or longitudinal slits, their gill membranes without duplicature.

d.' Dorsal well developed or very low.

e.' Dorsal origin at first third between mouth angle and gill opening; head 9 to vent. longipinne.

e.² Dorsal origin midway between mouth angle and gill opening.

f.' Head 8 to vent; body and tail equal. tenuis.

f.² Head 9 or 10 to vent; tail somewhat longer than body. birbii.

e.³ Dorsal origin above or slightly behind gill opening.

g.' Vomerine teeth much stouter than jaw teeth.

h.' Head 3 3/5 to 3 4/5 to vent; eye over first third of mouth cleft. nlindora.

h.² Head 4 to 4 1/3 to vent; eye median in mouth cleft. macrodon.

g.[2] Teeth equall small.

i.[1] Head 5 2/3 to vent; teeth uniserial; mouth cleft 3½ in head. bicolor.

i.[2] Head 7 to vent; vomerine teeth biserial; mouth cleft 3 in head. lumbricoides.

i.[3] Head 7 3/5 to vent; teeth uniserial; mouth cleft over 5 in head. misolensis.

i.[4] dorsal origin over ½ head length behind gill openings.

f.[1] Head 10 3/4 to vent; vomerine teeth biserial. anceps.

f.[2] Head 7⅓ to vent; teeth uniserial. kaupii.

f.[3] Head 6 5/6 to vent; very slight fold along back indicating dorsal. moseri.

f.[4] Head 6 to vent; vomerine teeth biserial. moluccensis.

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f.[4] Head 5 1/10 to vent; teeth uniserial. gjellerupi.

f.[5] Head 4 2/3 to vent; teeth uniserial, biserial on premaxillary. fusca.

d.[2] Vertical fins forming rudiment only quite near end of tail; head 6 to vent; klazingai.

d.[3] No fins.

k.[1] Head 8 to vent; no vomerine teeth partly biserial. quadrata.

k.[2] Head 6 to vent; no vomerine teeth? gracilis.

k.[3] Head 4 1/2 to 5 to vent; few sharp teeth on front of vomers. flavicauda.

Caecula polyophthalma (Bleeker)

Dalophis polyophthalmus Bleeker, Natuurk. Tijdsf. Nederl. Indië, vol. 4, 1853, p. 299. Priaman, Sumatra.

Sphagebranchus polyophthalmus Kaup, Archiv Naturges., 1856, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 26 (compiled). — Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 70, pl. (10) 154, fig. 1 (Java, Sumatra, Batjan). —

Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 329 (Nias, Nabo, Madura Strait).

Sphagebranchus polyophthalmus Deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.

Sphagebranchus polyophthalmus Deraniyagala, Ceylon Administrat. Rep., 1926, p. F18 (error).

Ophichthys polyophthalmus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 85 (type). — Volz, Zool. Jahrb. Syst., vol. 19, 1903, p. 416.

Caecula polyophthalma Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (compiled).

? Coecula pterygera Vahl, Skrift. Naturh. Selsk. Kjöbenhavn, vol. 3, 1794, p. 149, pl. 13.

Anguisurus punctulatus Kaup, Archiv Naturges., 1856, pt. 1, p. 50. Java; Cat. Apodal Fish Brit. Mus., 1856, p. 24, pl. 2, fig. 12 (head) (type).

Ophichthys punctulatus Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 403 (Samoa, Tahiti, Viti Levu).

Caecula orientalis (Mc Clelland)

Dalophis orientalis Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 213 (on Mantí bukaro pauma Russell, Fishes of Coromandel, vol. 1, 1803, p. 26, pl. 37, Vizagapatam). — Jerdon, Madras Journ. Lit. Sci., 1851, p. 151. —

Bleeker, Verhand. Batavia. Genootsch. (Nat. Tschth. Bengal), vol. 25, 1853, p. 78 (reference).

Siphagebranchus orientalis Kner, Reise Novara, Fische, 1865, p. 380 (Ceylon). —

Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 32, fig. 154 (British New Guinea). — Deraniyagala, Ceylon Administrat. Rep., 1925, p. F15.

2347

Aphichthys orientalis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 87 (Madras). — Day, Fishes of India, pt. 4, 1878, p. 665, pl. 171, fig. 1. — Károli, Termesz. Füzetek, Budapest, vol. 5, 1881, p. 185 (Ceylon). — Day, Fauna British India, Fishes, vol. 1, 1889, p. 96.

— Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 501, pl. 49c, fig. 3 (head) (Tamatave).

Aphichthys orientalis Sauvage, Hist. Nat. Madagascar, Poiss., 1891, pl. 49b, fig. 5.

Lamnostoma orientalis Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 180, pl. 6, fig. 1 (Las Baños).

Caecula orientale Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (compiled).

2348

Lamnostoma pictum Kaup, Archiv
Naturgesch., 1856, pt. 1, p. 50. "Leban.
Leyden" [Museum: on McClelland];
Cat. Apodal Fish Brit. Mus., 1856,
p. 23, pl. 2, fig. 11 (head) (Deccan).

depth 45; head 15, width
4 2/3. Snout 5 1/2 in head, eye 20,
3 1/5 in snout, 2 in interorbital;
mouth cleft reaches 3 1/2 eye diameters
behind eye, length 2 1/2 in head,
mandible tip falling midway in
snout length; teeth pointed, slender,
2 series on premaxillary before
closed mandible tip, uniserial in
jaws, biserial on front of vomer and

uniserial behind; interorbital 1½ in snout, convex. Gill opening equals interorbital, inferior, interspace 3/5 its length.

Vertical fins not clearly made out except after middle of total length. Tail at least little longer than rest of fish.

Madagascar, India, Ceylon, Philippines.

East Indies, Owing to the poor preservation of my only example I am unable to give further details.

1 example. Inasbate Bay, Luzon Island. June 11, 1909. Length 120 mm.

2350

D. 5356. Balabac Light, S. 64° W., 15.5 miles (N. 8° 6' 40" E. 117° 18' 45"), north Balabac Strait. In 58 fathoms. January 5, 1908. Length 260 mm.

2351

Caecula auticeps (Barnard)

Aphragebranchus auticeps Barnard, Ann. South African Mus., vol. 13, pt. 8, 1923, p. 444. Off mouth Tugela River, Natal, 37 fathoms; vol. 21, pt. 1, 1925, p. 206 (type).

2352

Caecula vulturis (Weber and Beaufort)
Sphagebranchus vulturis Weber and
Beaufort, Fishes Indo Austral.
Archipelago, vol. 3, 1916, p. 319. Hasi
besar, near west point of Sumatra.

2353

Caecula longipinne (Kner and Steindachner)

Sphagebranchus longipinnis Kner and Steindachner, Sitz. Ber. Akad. Wiss. Wien, math.-naturw. Klasse, vol. 54, pt. 1, 1867, p. 390, fig. 14. Samoa. — Schmeltz, Cat. Mus. Godeffroy, No. 3, 1866, p. 12 (Samoa; reference only); No. 4, 1869, p. 26 (Upolu).

Dalophis longipinnis Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 194 (Apia).

Cat. Fishes Brit. Mus., vol. 8, 1870, p. 88 (type);

Aphichthys longipinnis (Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 404 (Samoa).

Caecula longipinne Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (Apia); vol. 11, No. 5, 1931, p. 316 (reference).

2354

Caecula tenuis (Günther)

Aphichthys tenuis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 88. No locality.

Caecula

~~Ophichthus~~ kirkii Günther

Ophichthys kirkii Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 89. Rovuma Bay, East Africa. — Regan, Ann. Natal Mus., vol. 1, pt. 3, 1908, p. 243 (Kosi Bay). — Gilchrist and Thompson, Ann. Durban Mus., vol. 1, pt. 4, 1917, p. 302 (compiled). Ophichthys kirki Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 204 (Zululand).

2355

2356

Caecula mindora Jordan and Richardson

Coecula mindora Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 239, fig. 4. Mindoro, Philippines.

Caecula mindora Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 182 (Inomodor, Waigiu Island). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 46 (compiled).

Xiphagebranchus mindora Beaufort, Bijd. Dierk. Amsterdam, vol. 19, 1913, p. 99 (Rio Waiho in fresh water, Waigiu). —

Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 322 (Waigiu specimens).

Caecula taylori Herre, Philippine Journ. Sci., vol. 23, no. 2, Aug. 1923, p. 183, fig. 7 (teeth). Cabatoan River near Iba.

2357

Depth 3 1 to 3 1/2; head 7 1/4 to 7 3/4,
3 1/3 to 3 3/4 to vent, width 4 2/5 to 4 4/5, with length
1 1; combined

head and trunk 1 1/10 in tail. Snout

8 to 9 3/5 in head; eye 17 1/8 to 18, 2 1/3

to 3 in snout, 1 1/2 to 1 3/5 in interorbital;

mouth cleft extends 3 to 3 1/2 eye

diameters behind eye, length 3 to

3 1/2 in head; teeth conic, slender,

uniserial in jaws and single row

of 5 or 6 large ones down vomer;

interorbital 1 3/4 to 2 4/5 in snout,

convex. Gill opening low, nearly

equals snout, interspace little

6

less.

Lateral line distinct, complete.

Dorsal origin behind gill opening space equal to snout and half or all of eye combined.

Vertical fins low.

Brown or gray brown, obscurely clouded darker on back and upper surfaces. Muzzle dark gray. Iris gray. Under surface of head gray white. Belly whitish. Dorsal pale brown. Anal whitish.

East Indies, Philippines.

2359

18236. Nato River, Laganoy Gulf, Luzon. June 18, 1909. Length 490 mm.

22617. Paluan River, Mindoro. December 11, 1908. Length 203 mm.

20538. Tilig, Lubang Island. July 14, 1908. Length 258 mm.

7360

Caecula macrodon (Bleeker)

Lophagebranchus macrodon Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1863, p. 184. Borneo; Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 69, pl. (12) 156, fig. 1 (Borneo; Rotti). —

Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 323 (Leiden Museum specimen).

Ophichthys macrodon Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 85 (compiled). — Bartlett, Sarawak Gazette, vol. 26, no. 368, 1896, p. 180 (reference). —

Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 402 (Viti Levu; Society Island).

Caecula macrodon Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 47 (compiled).

2361

Caecula bicolor (Kaup).

Lamnostoma bicolor Kaup, Archiv Naturges., 1856, pt. 1, p. 50. Borneo; Cat. Apodal Fish Brit. Mus., 1856, p. 24 (type).

Aphagebranchus bicolor Kaup, Abhandl. Natur. Ver. Hamburg, vol. 4, pt. 2, 1860, p. 15 ( ). — Bleeker, Nederl. Tijdschr. Dierk., vol. 1, 1863, p. 185 (Borneo); Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 69, pl. (11) 155, fig. 3 (Borneo). — Schmeltz, Cat. Mus. Godeffroy, no. 4, 1869, p. 26 (haimusi). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 323 (type).

Aphichthys bicolor Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 86 (compiled). — Schmeltz, Cat. Mus. Godeffroy, no. 5, 1874, p. 37 (Viti Islands); no. 7, 1879, p. 59 (Viti Islands). — Bartlett, Sarawak Gazette, vol. 26, no. 368, 1896, p. 180 (reference).

2362

Caecula bicolor Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 47 (compiled); vol. 11, No. 5, 1931, p. 316 (reference).

2363

Caecula lumbricoides (Bleeker)

Ophagebranchus lumbricoides Bleeker,

Nederl. Tijdschr. Dierk., vol. 2, 1864, p. 46. Timor; Atlas Ichth. Ind. Néerl., vol. 4, 1864, p. 71, pl. (44) 188, fig. 4 (type). — Schmeltz, Cat. Mus. Godeffroy, No. 4, 1869, p. 26 (East Indies; Inamusi).

— Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 324 (type).

Caecula lumbricoides Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 47 (compiled).

Ophichthys timorensis (Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 86 (on Bleeker's type). — Schmeltz, Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Singapore). — Johnstone, Rep. Pearl Oyster Fisher., No. 2, Fishes, 1904, p. 205 (Cheval Paar).

2364

Caecula misolensis (Günther)

Aphichthys misolensis Günther, Ann. Mag. Natl. Hist., ser. 4, vol. 10, 1872, p. 426. Misol Island; Cruise of Curaçoa, Brenchley, 1873, p. 430.

Sphagebranchus misolensis Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 324 (Type).

Caecula anceps (Cantor)

2365

Dalophis anceps Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p. 1309, pl. 6, figs. 1-4. Pinang Sea.

Sphagebranchus anceps Kaup, Archiv Naturges., 1856, pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 27 (copied).

Ophichthys anceps Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 84 (type).

2366

Caecula kaupii (Bleeker)

Sphagebranchus kaupii Bleeker, Act. Soc. Sci. Ind. Neerl., no. 8, vol. 5, 1858-59, p. (1) 3. Kiabatdiatas, Manado, Celebes, in rivers; Atlas Ichth. Ind. Neerl., vol. 4, 1864, p. 70, pl. (13) 157, fig. 1 (type).

— Weber and Beaufort, Fishes Indo Austral. Archipeldgo, vol. 3, 1916, p. 325 (type).

Ophichthys kaupi Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 86 (type).

2367

Caecula mozeri (Jordan and Snyder)

Uphagebranchus mozeri Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 864, fig. 14. Suruga Bay, Japan, 100 fathoms.

Caecula moluccensis (Bleeker)

Dalophis moluccensis Bleeker, Natuurk. Tijdschr. Nederl. Indië, vol. 5, 1853, p. (234) 246. Ceram.

Sphagebranchus moluccensis Kaup, Archiv Naturges., 1856, pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 26 (compiled). — Bleeker, Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 68, pl. (11) 155, fig. 1 (Batjan; Ceram). — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 325 (type).

Ophichthys moluccensis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 85 (type).

2369

Caecula gjellerupi (Weber and Beaufort)

Aphagebranchus gjellerupi Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 326. Tanah merah in brook near shore, Dutch North New Guinea.

Caecula gjellerupi Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 47 (copied).

Caecula fusca (Zuiew)

Muraena fusca Zuiew, Nov. Act. Acad. Sci. Petropol., vol. 7, 1793, p. 296, pl. 7, fig. 1. Madagascar.

Ophichthys fuscus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 85 (Madagascar).

Sphagebranchus fuscus Bleeker, Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

Sphagebranchus breviroxtris Peters, Archiv Naturges., 1855, p. 273. Canal of Mozambique, west coast of Madagascar, 23.5° S. Lat. — Kaup, Archiv Naturges., 1856, pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 25 (copied).

2375

Caecula balazingai (Weber)

Siphagebranchus balazingai Weber, Siboga Exped., vol. 57, Fische, 1913, p. 47, fig. 9. Banda, 9 to 45 meters. — Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 321, fig. 135 (type).

2372

Calcula quadrata (Richardson)

Uphagebranchus quadratus Richardson, Voy. Sulphur, Fishes, 1844, p. 115, pl. 52, figs. 8-15. China. — Kaup, Archiv Naturges., 1856, pt. 1, p. 53 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 29 (copied).

Aphichthys quadratus Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 89 (type). — Elera, Cat. Fauna Filipinas, vol. 1, 1895, p. 591 (Luzon, Manila).

2373

Caecula gracilis (Kaup)

Aphisurapus gracilis Kaup, Archiv Naturgesch., 1856, pt. 1, p. 52. No locality (Parik Museum).

Aphisurhaphis gracilis Kaup, Cat. Apodal Fish Brit. Mus., 1856, p. 29 (copied).

Aphichthys gracilis Günther, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 90 (copied).

2374

Caecula flavicauda (Snyder)

Aphagebranchus flavicaudus Snyder, Bull. U. S. Fish Comm., vol. 23, 1902 (1904) p. 516, pl. 2, fig. 4. Between Maui and Lanai in 21 to 28 fathoms; off north east Hawaii, 50 to 60 fathoms.

— Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 80, pl. 5, fig. 2 (type). — Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903 (1905), p. 588 (off Hawaii; between Maui and Lanai; 23 to 66 fathoms).

Caecula flavicauda Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 47 (Kahala, Oahu; type).; vol. 11, no. 5, 1931, p. 316 (Pearl and Hermes Reef).

2375

Genus Hemerorhinus Weber and Beaufort

Hemerorhinus Weber and Beaufort,

Fishes Indo Austral. Archipelago, vol.

3, 1916, p. 281. Type Ephagebranchus

heijningi Weber, monotypic.

Body much elongate, cylindrical. Head short. Snout pointed, projects beyond mouth. Eye small, before first fourth in head. Mouth cleft reaches far beyond eye. Lips without filaments. Teeth pointed, recurved, emisérial. Front nostrils in short tube, directed backward at edge of upper lip below front eye edge. Hind nostril long slit below and behind eye, some space above border of upper lip. Gill openings small, ventral, vertical, transversely connected by furrow. Dorsal and anal not confluent, end short space before tail tip, dorsal origin somewhat behind anal

origin. Pectorals wanting.

East Indies. Unique in the family by the position of its nostrils, both of which are situated below the eye above the upper lip.

2377

Hemerorhinus heijningi (Weber)

Sphagebranchus heijningi Weber, Siboga Exped., vol. 57, Fische, 1913, p. 46, fig. 8 (head). Molo Strait, 69 to 91 meters.

Hemerorhinus heijningi Weber and Beaufort, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 282, fig. 128 (copied).